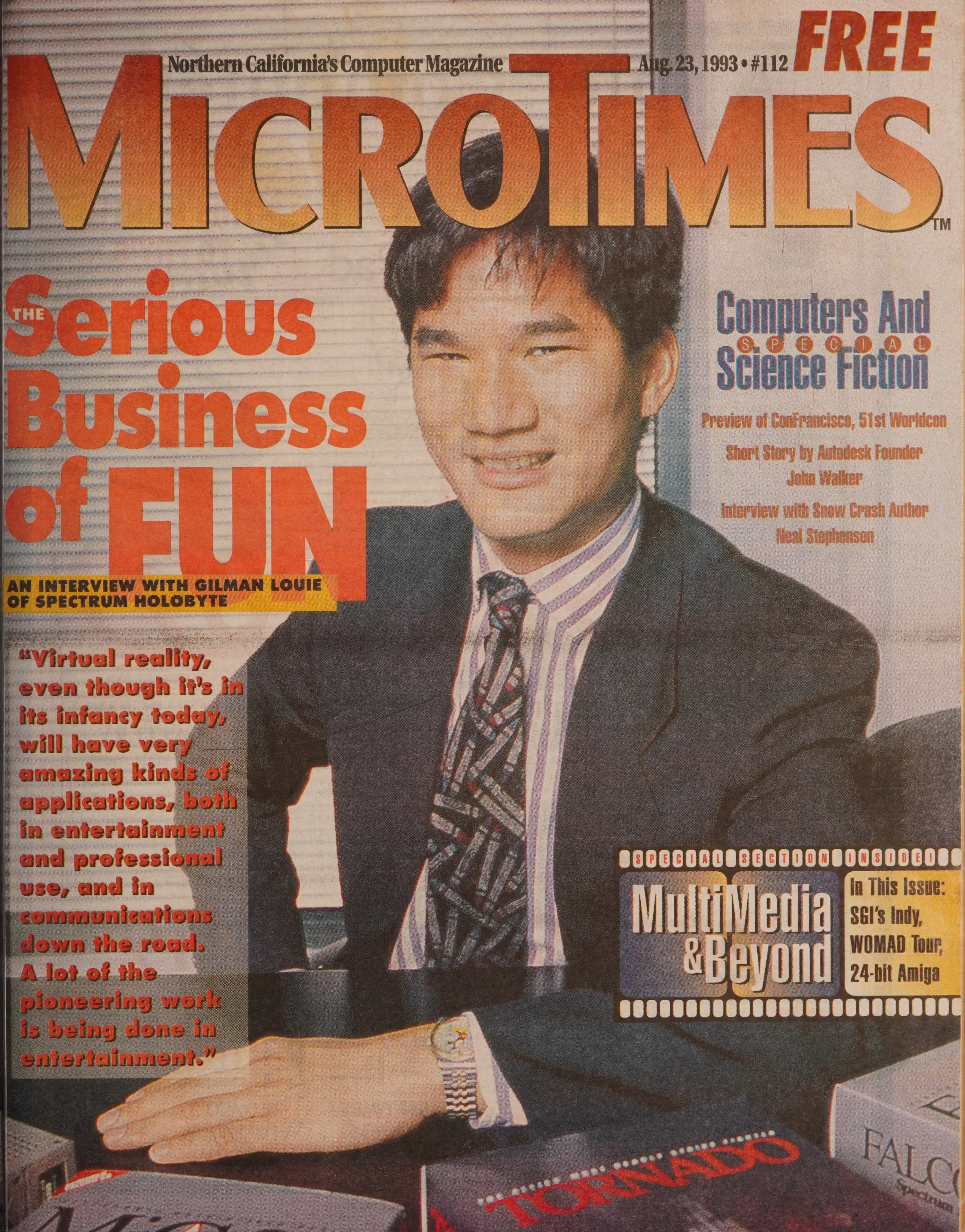
Northern California's Computer Magazine
Aug. 23, 1993 • #112
FREE

MICROTIMES™



THE Serious Business of FUN

AN INTERVIEW WITH GILMAN LOUIE OF SPECTRUM HOLOBYTE

"Virtual reality, even though it's in its infancy today, will have very amazing kinds of applications, both in entertainment and professional use, and in communications down the road. A lot of the pioneering work is being done in entertainment."

Computers And SPECIAL Science Fiction

Preview of ConFrancisco, 51st Worldcon

Short Story by Autodesk Founder John Walker

Interview with Snow Crash Author Neal Stephenson

SPECIAL SECTION INSIDE!

MultiMedia & Beyond

In This Issue:
SGI's Indy,
WOMAD Tour,
24-bit Amiga

Apple® Computer®

Newton™ MessagePad™

Authorized Reseller

COMMING THIS MONTH TO FRY'S

Newton™ PROFESSIONAL COMMUNICATION SYSTEM

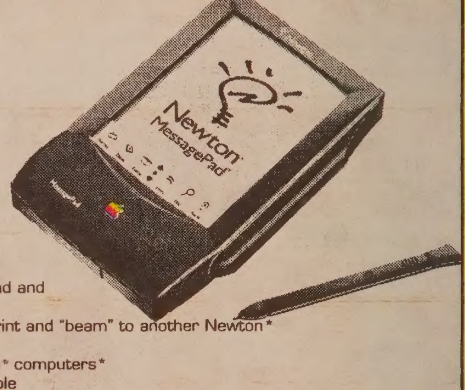
Introducing the Newton™ MessagePad™ communications assistant from Apple Computer, Inc. Newton makes it easy to communicate and organize information.

- Built-in calendar, address book, notepad and communications capabilities
- Lets you send a fax, receive a page, print and "beam" to another Newton*
- Send and receive electronic mail
- Works with PCs and Apple® Macintosh® computers*
- Additional software and storage available
- Easy and fun to use
- Fits in your pocket, weighs under 1 pound
- Battery powered
- Complete with Macintosh Interface.

*Fax/modem, Message Card and Newton Connection software sold separately.
#1812453

$999

Newton™ MessagePad™



Introducing the Newton™ MessagePad™ communications assistant from Apple Computer, Inc. Newton makes it easy to communicate and organize information.

- Built-in calendar, address book, notepad and communications capabilities
- Lets you send a fax, receive a page, print and "beam" to another Newton*
- Send and receive electronic mail
- Works with PCs and Apple® Macintosh® computers*
- Additional software and storage available
- Easy and fun to use
- Fits in your pocket, weighs under 1 pound
- Battery powered

*Fax/modem, Message Card and Newton Connection software sold separately.
#1812442

$899

NEWTON MESSAGING CARD

Turn your Newton MessagePad into a mobile pager. The Messaging Card receives and stores wireless messages - even when it's not plugged into your Newton MessagePad. It is for use with regional and nationwide paging systems and news services.
#1812578

$279

NEWTON PRINT PACK

The Print Pack comes with all the software and hardware you need for your parallel printer with your Newton MeassagePad. It works with the most popular laser printers, dot-matrix printers portable ink-jet and thermal printers, and other printers that are compatible with MS-DOS and Windows-based computers.
#1812556

$99.99

NEWTON COMMUNICATIONS SYSTEM CARRYING CASE

Use this fine leather carrying case for your Newton MessagePad and accessories - from the Fax Modem to the Messaging Card and PCMICIA storage cards. The case also provides convenient access to telephone lines for easy faxing or connection to on-line services.
#1812475

$69.95

NEWTON RECHARGEABLE BATTERY

To keep your most valuable possession running, get this rechargeable nickel-cadmium battery pack BEFORE you need it.
#1812534

$19.99

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

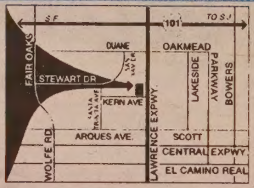
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

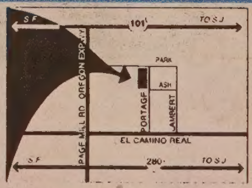
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

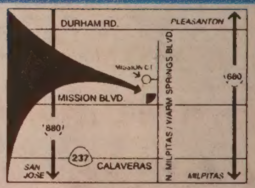
CORPORATE P.O. FAX #


S.F.
101
TO S.J.
FAIR OAKS
DUANE
OAKMEAD
SAN XAVIER
STEWART DR
SANTA TRINITA AVE
KERN AVE
LAKESIDE
PARKWAY
BOWERS
LAWRENCE EXPWY.
ARQUES AVE.
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD.

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800


S.F.
101
TO S.J.
OREGON EXPWY
PAGE MILL RD
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD.
PLEASANTON
MISSION CT
680
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
880
SAN JOSE
237
CALAVERAS
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

INCREDIBLE SELECTION

DISK DRIVE DEPOT

GREAT PRICES

PROFESSIONAL SERVICE

CD-Rom Drive Explosion

You asked for them - we found them at bargain prices. The Disk Drive Depot now has a complete selection of CD-ROM drives in stock. These pictured photo CD compatible NEC CDR 73 and 83 CD-ROMs start at an amazingly low $189 for the internal model. You need a CD drive to take advantage of all the latest software. We have multimedia CD-ROMs starting at **$159!** Multi-session, MPC, multi-spin, all the latest and fastest CD-ROM technology can be yours! Call or drop by the Depot today and pick one from our huge selection.

NEC
NEC
CD-ROMs AS LOW AS $159!

Macintosh-Compatible SCSI OCR Scanners

$295

Tired of typing? Disk Drive Depot makes OCR technology affordable! Abaton uses modern one bit technology coupled with OmniType software to create the ideal document scanning package for Macintosh applications. Take advantage of our insane price on a brand new, factory sealed Abaton SCSI scanner and OCR software bundle: List Price: $995. DDD **Price: $295!** Buy now and we'll throw in a free automatic document feeder while supplies last! Call today while the limited supplies last!!

Syquest SQ-555 Drives

Call DDD for the best deal on a refurbished 44 megabyte Syquest removable cartridge hard drive! At **$149**, you won't be able to resist the temptation. Our specialists will advise you for simple Macintosh or PC installation. Order an internal drive or let us build a custom external unit in the enclosure of your choice.

True Color Video Boards!

For serious prepress and photo manipulation work, you need a true color video board capable of PMS color matching. DDD carries a complete line of brand new graphics engines that offer up to 16.8 million colors! The best news is the price! Call our friendly sales staff and ask for our daily inventory fax! We have hundreds of VRAM, super VGA, and true color boards in stock. With prices starting at **$39**, you won't believe your eyes!

All drives (both new and refurbished) are backed by the Disk Drive Depot's fast turnaround warranty. Quantities limited on most items, and prices are subject to change without notice. Trademarks listed are property of their respective owners.

Cheapernet Cards!

PC Networking costs too much! Most companies offer ethernet cards at $60 or more! A large wholesale purchase lets us sell these Novell-compatible ethernet cards at unheard of prices. Order a four pack (yes, we mean four brand new boards) for **only $99** at the Disk Drive Depot. No CRV required.

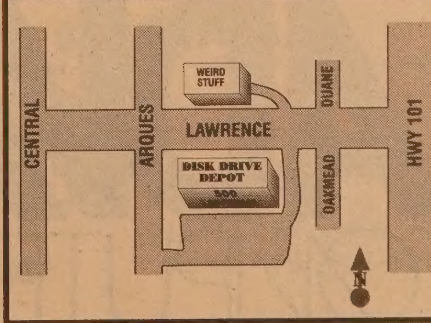
DISK DRIVE DEPOT

(408) 738-3895

FAX (408) 738-3896

500 Lawrence Expressway
Sunnyvale, CA 94086

Stop in and visit our retail showroom on Lawrence Expressway, opposite from Weird Stuff (on the left side of the street). Our service and selection are second to none.



TENS OF THOUSANDS OF OUR SYSTEMS SOLD SINCE 1983 ARE STILL IN USE

TAKE ANY COMPUTER...

COMPAQ Apple IBM NEC AST AMI MICRONICS DELL GATEWAY MYLEX

and we will install a 2 Gigabyte HD, 2GB Tape Back-up, 37" Monitor, CD Rom, Novell Software, UNIX Software, D Software, and any configuration you want.

PLEASE CALL

WE CAN CONFIGURE:

-UP TO 96 MB MEMORY
-1 GB UP TO 50 GB HARD DRIVES
-14" UP TO 37" MONITOR
-SUPER FAST VIDEO CARDS
-SCO UNIX, NOVELL, AUTOCAD,OS/2, DOS, 3COM

CALL REGARDING ANY CONFIGURATION & BEST PRICE

WORLD'S MOST POWERFUL & FAST COMPUTERS!

1) AT&T Chooses SAM Workstations Over Gateway 2000!
2) Apple Buys SAM Workstations!
3) Hewlett Packard & Sun Engineers Buy SAM Workstations!
4) Rated As One Of The Best File Servers With Detachable 1.2 Gigabyte Hard Drives By Leading Network Engineers!
5) The Fastest Engineering Workstation For Software Development & CAD Applications!
6) 10 Years In Silicon Valley!
7) Symantec, Scitor, Veritas & Many More Companies Have Become Giants In Software..They Have Our Computers & Workstations!

NOTEBOOK

486-33

w/200 MB HARD DRIVE

$2299

TOSHIBA, APPLE, NEW, ALR, & MORE

ALL AVAILABLE

WORLD'S BEST PRICE! $990

ACS 486-33 MHz

- 4MB RAM Expandable to 32MB On Board
- 120 MB, 16ms Hard Drive
- 1.2 MB, 5 1/4" Floppy Drive
- 1.1 Interleave 2 Hard/2 Floppy Drive Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 16-Bit SVGA Card
- 14" SVGA Color, 1024x768, 0.28mm Dot Pitch Display
- Clock/Calendar with Battery Back-up
- 8 Expansion Slots
- 3 Button, Hi-Resolution Serial Mouse

SOFTWARE LOWEST & BEST PRICES

UNIX•ORACLE•INFORMIX•SCO•ALL APPLICATIONS• 1,2,3 FOR UNIX•WORDPERFECT FOR UNIX•Q & A AUTOCAD R.12•NOVELL•3COM•LANTASTIC•BANYAN •COREL DRAW•FRAMEMAKER•D BASE IV• MS WORD•BORLAND

MONITORS

NANAO

F550i	$1090
F340in	$730
F750i	$2090

NEC

4FGE	$734
5FGE	$1340
6FG	$2390

MAG

MX17F	$1065
MX15F	$580

SONY

CDP 1430	$595
CDP 1640S	$990

LASER PRINTERS

HP LASER IV

$1349

IBM•FUJITSU•APPLE•QUME•EPSON•QMS•PANASONIC•NEC•OKIDATA

PLOTTERS/ DIGITIZERS

Summa Sketch	$325
Calcomp	BEST PRICE

HITACHI•ROLAND•KURTA MICROTEK•LOGITECH•HP

ALL PLOTTERS & DIGITIZERS

ADVANCE COMPUTER SYSTEMS

Delivery & Installation Available
3 LOCATIONS TO SERVE YOU

SUNNYVALE - 665 GRAPE AVE. (408) 732-6200, FAX: (408) 749-9449
WALNUT CREEK - 1987 N. MAIN ST. (510) 945-8011, FAX: (510) 945-4941
SAN FRANCISCO - 1231 MARKET ST. (415) 552-2902, FAX: (415) 703-6217

(A) Prices subject to change w/o notice
(B) Financing Available
(C) Not responsible for typo error
(D) Installation Extra
(E) Subject to stock on hand
(F) Prices vary at stores
(G) Toner extra
(H) Visa, mastercard

PENTIUM SYSTEM STARTS AT $1999...TAKING ORDERS

Used By Santa Cruz Operation-

SCO
THE SANTA CRUZ OPERATION

The world's largest UNIX software developer-to exhibit their software at UNIXFORUM, Washington, DC.
THAT IS HOW GOOD OUR COMPUTERS ARE!

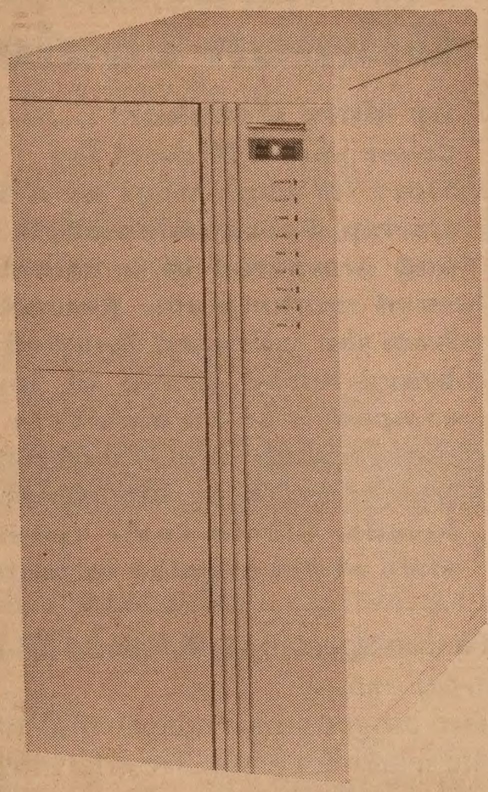
COLOR PORTABLE PENTIUM CHIP

- *Up to 66 GIGA Hard Drive & CD-ROM*
- *Up to 96 MB RAM*
- *Good for UNIX, NOVELL, DOS, OS/2*
- *Color*

CALL FOR PRICE

486 EISA/ISA/LOCAL BUS PORTABLE

SAM WORKSTATION



- Pentium CPU
- 1MB Cache
- 32 MB Memory Expandable To 1 Gigabyte
- 20"/37" Monitor
- 1280x1024 SVGA Card LB
- Auto CAD
- 32 Bit Network Card
- Digitizer/Plotter
- Multimedia
- SCSI Cache 16MB
- 2.2 Gigabyte SCSI Hard Drive Configured (Expandable To 50 Gigabyte)
- 2 Gigabyte Tape Expandable To 50 Giga
- Server Case
- UNIX/NOVELL/OS-2/ DOS/3COM
- Windows Nt
- Color Printer
- Document Imaging
- 32 Bit Video Card
- Color Laser Printer/Scanner
- Ventura, Gem Photo Lab
- PageMaker
- Photoshop
- Erasable Optical Drive

FILE SERVER GRAPHICS WORKSTATION

ADVANCE
COMPUTER SYSTEMS

3 LOCATIONS TO SERVE YOU

SUNNYVALE
665 Grape Ave.
(408) 732-6200
Fax: (408) 749-9449

WALNUT CREEK
1987 N. Main St
(510) 945-8011
Fax: (510) 945-4941

SAN FRANCISCO
1231 Market St.
(Inside Ramada Inn
Mezzanine Floor)
(415) 552-2902
Fax: (415) 703-6217

Leasing & Financing Available

AUG. 23, 1993 ISSUE #112

MICROTIMES™

TABLE OF CONTENTS

Editorial
(510) 934-3700

Advertising
(510) 934-3700 (408) 249-2343

A NOTE FROM THE EDITORS

As we discovered early in the magazine's existence, there is a considerable overlap between the science fiction and computer communities, and the cross-fertilization between the two cultures produces some pretty interesting results. In view of the impending arrival of this year's Worldcon in San Francisco, we decided to have some fun this issue and spotlight the computer/sci-fi interaction. So, in addition to previewing Worldcon itself, we're happy to bring you this month's cover story, in which Spectrum HoloByte's Gilman Louie discusses, among other things, the future of Star Trek gaming; an interview with *Snow Crash* author Neal Stephenson; and some original science fiction by Autodesk cofounder John Walker. Enjoy!
—ME

MICRO MARKET PLACE
A SPECIAL ADVERTISING SECTION FOR BAY AREA COMPUTER BUYERS STARTS ON PAGE 96

COMPUTERS AND SCIENCE FICTION

COVER STORY

Serious Fun: Business As Usual An Interview With Gilman Louie

By Mary Eisenhart 68
Cover photo: Michael Jay
Since its beginnings as a kitchen-table startup, Spectrum HoloByte has survived and prospered in a volatile entertainment marketplace. Recently extricated from the collapsed Maxwell empire by a broad-based group of investors, the company's on an ambitious growth path that includes everything from game cartridges to VR parlors. Chairman and cofounder Gilman Louie updates us on the state of the ongoing adventure.

Fiction Special: We'll Return After This Message
By John Walker 80
Two programmers take an unusual approach to the search for extraterrestrial intelligence.

Preview: ConFrancisco 86
The science fiction world converges on Moscone Center for five days of ideas and revelry.

Text: The Ultimate VR Tool? 91
By Mary Eisenhart
In this email interview, *Snow Crash* author Neal Stephenson expresses some surprising views about multimedia, VR, and where it's all going.

Preview: Third Foresight Conference On Molecular Nanotechnology 92

NEWS & VIEWS

Industry Insight *By Paul Hoffman* 17
- *Novell's Perilous Path* 17
- *Ethernet: More Speed, Different Standards* 18
- *FTC/Microsoft* 20
- *MicroTimes Stock Index* 23

Realizable Fantasies *By Jim Warren* 24
Online democracy: the adventure continues.

Dvorak's Last Column *By John C. Dvorak* 314
Those darn aliens kidnap Dvorak just in time for his deadline.

BUSINESS SOLUTIONS

Pens & Palmtops *By Mitsu Hadeishi* 32
Dauphin palmtop, Newton, Tandy Zoomer.

Laptops *By Ed Kahn* 38
PCMCIA modems, Toshiba's latest notebook.

UNIX *By Bennett Falk* 44
A philosophical examination of documentation.

Telework Think Tank *By Robert Moskowitz* 49
Studying the impact of telecommuting on workplace trends.

Preview: COMPUEXPO 60
For resellers, system integrators, consultants, and MIS personnel trying to keep up with the price/performance curve, this global expo offers a unique product and information resource.

FEATURES:

Navigating OS/2's Desktop *By Fabian Pascal* 112
OS/2's GUI offers increased ease of use, and redefines a few traditional user perceptions along the way.

Playing In The MUD *By Kevin Savetz* 122
Online universes await the adventuresome modem traveler.

MultiMedia & beyond

Enter Indy: Silicon Graphics Unveils Powerful, Affordable Workstation
By Tony Reveaux 284
SGI's latest delivers sophisticated tools for a surprisingly budget-friendly price.

Amiga Multimedia Tools
By Douglas J. Nakakihara 292
Retina delivers 24-bit color to the Amiga.

Multimedia 101: Future Zone At The WOMAD Festival
By Jonathan E. 299
Touring World Music fest provides a look at state-of-the-art multimedia.

AMS Challenged The Limits Of The Ordinary PC To Give You The Best Value Available Anywhere !

At AMS great wasn't good enough for our customers. We challenged the limits of the PC market to develop the best values in computers. Brands like IBM, Intel, AMI, Conner' Maxtor, Sony etc... . We took the best and carefully engineered them to out perform the rest of the competition. And the result are in with AMS clearly leading the pack. That's why AMS won WINDOWS SOURCES Magazine's EXPERT PICK's, March '93. AMS offers the best value on the best quality computers available anywhere. If you want the best in computers call AMS today!

Financing Available !

***Ask** about our convenient credit plan.*

- ***Fast credit decisions***
- ***Convenient terms***
- ***Low monthly payments***

90 days same as cash !

EXPERTS' **Windows** PICK

American Multisystems
***InfoGOLD** 486-50*
MARCH 1993

Windows Sources
The Magazine for Windows Experts

"With brilliant graphics performance, the InfoGOLD 486-50 makes one smart choice as Windows workstation"

BACK TO SCHOOL SPECIAL

486DX2-66 Mhz Computer System
$ 945 or $ 35/Month

486DX-33 Mhz Computer System
$ 735 or $ 27/Month

SALE

386DX-40 Mhz Computer System
$ 485 or $ 20/Month

System Includes:

◆ 4Mb Memory ◆ 1.44Mb TEAC Floppy Disk Drive ◆ 1:1 FD/HD Controller w/2S,P,G ◆ Singular Case with 101 Keyboard ◆ Mouse

BEST VALUE

	120Mb	213Mb	340Mb
486DX2-66 MHz Local Bus	***$1410 /***	***1465 /***	***1555***
486DX-33 MHz Local Bus	***$1220 /***	***1275 /***	***1365***

System Includes:

◆ 4Mb Memory ◆ Fast Cache ◆ 1.44Mb TEAC Floppy Disk Drive ◆ **Local Bus** Controller Card ◆ **Genoa Local Bus** S-VGA Card w/1Mb ◆ 14" S-VGA Monitor ◆ 101Enhanced Keyboard ◆ DeLuxe Mini Tower Case ◆ Microsoft Compatible Mouse

SPECIAL LOCAL BUS SYSTEMS

	120Mb	213Mb	340Mb
486DX2-66 MHz Local Bus	***$1310 /***	***1365 /***	***1455***
486DX-33 MHz Local Bus	***$1120 /***	***1175 /***	***1265***

System Includes:

◆ 4Mb Memory ◆ Fast Cache ◆ 1.44Mb TEAC Floppy Disk Drive ◆ 1:1 FD/HD Controller w/2S,P,G ◆ S-VGA Card w/512K ◆ 14" S-VGA Monitor ◆ 101 Enhanced Keyboard ◆ DeLuxe Mini Tower Case ◆ Microsoft Compatible Mouse

THE "EXPERT PICK" SYSTEM FOR WINDOWS EXPERTS

486DX2-66 MHz EISA VESA Local Bus System
$3295 or $ 91/Month

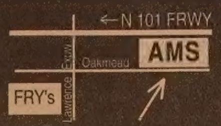
System Includes:

◆ 8Mb Memory ◆ 1.44Mb & 1.2Mb TEAC Floppy Disk Drive ◆ DTC EISA SCSI Controller Card w/4Mb Cache ◆ 1:1 FD/HD Controller w/2S,P,G ◆ Diamond Viper S-VGA Local Bus Card w/2Mb ◆ 14" S-VGA Monitor (0.28DPI) ◆ 340Mb Maxtor SCSI Hard Drive ◆ 101 Enhanced Keyboard ◆ Full Size Dual Cooling Tower Case ◆ Microsoft Compatible Mouse

Upgrade options:

●	Diamond Viper Local Bus S-VGA w/2Mb	$369	●	250Mb Tape backup	$175	●	L-Bus IDECaching Contr.	$259	●	Sony CDU-31A CD-ROM	$198
●	Local Bus S-VGA Card with 1Mb	$ 69	●	120Mb Tape backup	$135	●	Local Bus IDE Contr.	$ 49	●	MS-DOS 6.0 & Windows	$ 99

408/524-9091



American Multisystems
538 Oakmead Pkwy. , Sunnyvale California 94086

Low interest and low monthly payment financing available with 10 % down. Credit approved in 30 minutes. No interest for 90 days * Not responsible for typos. Prices may change without notice * 2 scheduled payment required

Terms and Conditions: All prices reflect cash discount. One Year Warranty on Parts and Labor. 30 Day Satisfaction Guaranteed on all products. All returns are subject to approval. 15% restocking fee for all returns. All prices subject to change without notice. Not responsible for typos.

AUG. 23, 1993 MICROTIMES ISSUE #112

TABLE OF CONTENTS

FEATURES cont.

BMUG *By David Morgenstern* 147
Back to school with BMUG.

Parsons' Bible Software: A Godsend For Students 155
By Birrell Walsh
New tools make serious Biblical scholarship more accessible.

PRODUCT SPOTLIGHT

Product Updates 188

NEW PRODUCTS

PC Hardware

Spider Video Cards 188
Forex VESA SCSI Host Adapter 188
AVerKey 188
MiDiWiN 190
Wedge Pocket Ethernet Adapter 190

Laptops

Altima Traveler 190
Commax Smartbook 194

Macintosh Hardware

DayStar Turbo 040i 194

PC Software

Alpha Four v3.0 196
Studio For Windows 196

REVIEWS

Games

By Mike Markowitz

Iron Helix 279
The Tinies 307

Macintosh Software

Power To Go 307

Amiga Software

TypeSmith 308

RESOURCES

Calendar Of Events 250
- *Home Office Technology Conference* 250
- *Multimedia Studies Program, SFSU* 250
- *California Computer Show & Sale, Sacramento* 250
- *International Conference On Technology And Persons With Disabilities* 250

User Group Network 262
BBS Column: National Videotext Network

Classifieds 270

Index Of Advertisers By City 310

Index Of Advertisers 312

THE PRICE LEADER

$ PRICE SPECIALS $

HEWLETT PACKARD

LaserJet 4Si/4Si MX
High Speed-High Volume-High Quality
- Fast 17 ppm, 600x600 dpi print quality
- Two 500 sheet input and output tray full sensor
- Multiple language capability with auto switching
- Flexible connectivity with two MIO expansion slots
- Expandable and flexible - Excellent for networks
- HP LaserJet 4Si MX designed for simultaneous sharing across multiple network & computer operating systems. Supports HP-UX, SUN OS, Solaris, and SCO UNIX
- One year on-site warranty

HEWLETT PACKARD

HP LaserJet 4/4M
- 600 dpi print quality at a 300 dpi price
- Resolution enhancement technology and microfine toner for superior output quality
- Fast 8-ppm printing for complex documents
- Outstanding language and platform flexibility
- Full network capabilities (with options)
- Ideal for Windows environment
- Easy to use
- Package with toner

BEST PRICE

$ PRICE SPECIALS $

HP DeskJet 1200 C
- High quality resolution, 600x300 dpi text and 300 dpi color
- 35 Intellifont, 10 True Type
- 2MB expandable to 26MB with SIMMS
- Color PCL5
- Print Speeds: 7ppm Fast, 6ppm Normal, 4ppm HQ

IN STOCK

*Call for PostScript

$1339

$ PRICE SPECIALS $

HP DeskJet 500/500C/550C Printers
HP DeskWriter/DeskWriter C/DeskWriter 550C for Macintosh®
- Affordable laser-quality printing
- 500C & 550C allows 300 dpi color printing on plain paper and transparencies
- Wide variety of built-in fonts
- Supports Windows Applications
- 3-year limited warranty

$299 / $399 / $599

Apple Apple

Apple® Macintosh PowerBook™ 165C - 4/80
- 33MHz 68030 CPU
- 1.4MB Apple® SuperDrive™
- Math Coprocessor-FPU
- 256 Color Display
- 4MB RAM; 80MB HD

$1999

Apple Apple

Apple® Macintosh Centris™ 610 - 4/80
- 25 MHz 68040 CPU
- 32-Bit data bus
- 4MB RAM; 80MB HD
- 1.4MB Apple® SuperDrive™

$1229

Apple, the Apple logo, and Macintosh are registered trademarks of Apple Computer, Inc. Powerbook and Macintosh Centris are trademarks of Apple Computer, Inc.

• Specializing in Corporate Accounts • We Carry Name Brand Equipment and Offer Personalized Service for Our Corporate Customers • Computers • Printers • Novell Network • Compaq Apple Macintosh • Hewlett Packard • AST • Comart • PLEASE CALL FOR A CATALOG

Novell Authorized Reseller HEWLETT PACKARD EPSON COMPAQ AUTHORIZED DEALER AST HYUNDAI IBM

COMART
COMART BUSINESS SYSTEMS, INC.

843 Howard Street
(Between 4th & 5th)
San Francisco, CA 94103
(415) 896-1765 Fax (415) 896-2582

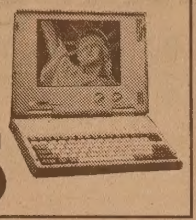
5th 4th Howard Street Comart Moscone Center

Store Hours:
Mon. Thru Fri. 9:00-5:30
Sat. 11:00-4:00

VISA MasterCard AMERICAN EXPRESS
*Upon credit approval

WE WILL BEAT ANY ADVERTISED PRICE!!!

NOTEBOOK
486NC33



- 4 MB RAM
- 1.44 MB Floppy Disk Drive
- 120 MB Hard Drive
- Serial/Parallel Port/Clock
- 96/24 Fax Modem
- DR DOS 6
- 4.7 Lbs
- 10" LCD Monitor

$1475

System	Price
Landmark 223 MHz Basic System 486 DX2-66 MHz/256K VESA Local Bus	$896
Landmark 167 MHz Basic System 486 DX-50 MHz/256K 2 Local Bus VESA	$735
IBM Basic System 486SLC2-66 MHz/64K/2 Local Bus VESA	$695
IBM Basic System 486SLC2-50 MHz/64K/2 Local Bus VESA	$515
Landmark 113.44 MHz Basic System 486 DX-33 MHz/256K/2 Local Bus VESA	$579
Landmark 113 MHz Basic System 486 SX-25 MHz w/128K/ISA	$415
Landmark 61 MHz Basic System OPTI 386 DX-40 MHz/128K	$299
Landmark 21 MHz Basic System 386 SX-16 MHz/33 MHz +$20	$245
Landmark 136 MHz Basic System 486DX-40 MHz/256K	$585

BASIC SYSTEM INCLUDES

Motherboard & CPU • 1MB of Memory
• 1.2MB or 1.4MB Floppy Drive
2 Serial • 1 Parallel Port • 1 Game Port
• Case w/ Power Supply 230W
1:1 2HD/2FD Controller • 101 Enhanced Keyboard

486DX-33 MHz 128K

- Basic System Configuration
- 245 MB Hard Disk IDE 15ms
- 14" SVGA Monitor/DOS 6/ Windows 3.1/1 MB Card

$1145

486DX-50 MHz 256K

- Basic System Configuration
- 340 MB Hard Disk IDE 15ms
- 14" SVGA Monitor/DOS 6/ Windows 3.1/SVGA Card w/1 MB

$1365

486DX-40 MHz 256K

- Basic System Configuration
- 170 MB Hard Disk IDE 15ms
- 14" SVGA Monitor
- 1.2 MB FDD
- 1.44 MB FDD
- SVGA Card w/512K

$1045

486DX2-66 MHz/256K

- Basic System Configuration
- 340 MB Hard Disk IDE
- 4 MB RAM To 32 MB
- 14" SVGA Monitor .28
- 1 MB VGA Card
- Two Local Bus
- MS DOS 6/Win 3.1

$1630

386-40 MHz 128K

- Basic System Configuration
- 120 MB Hard Disk IDE 15ms
- 14" SVGA Monitor
- 1.2 MB FDD
- 1.44 MB FDD
- SVGA Card w/512K/ 1 MB RAM

$799

386SX-33 MHz

- Basic System Configuration
- 120 MB Hard Disk IDE
- 1 MB RAM To 32 MB
- 14" SVGA Monitor .28
- 512K SVGA Card

$659

IBM MOTHERBOARD W/CPU

3 YEAR WARRANTY ON ALL BOARDS
MANUFACTURED IN U.S.A. BY IBM, CHARLOTTE, NC

3 YEAR SYSTEM WARRANTY BOARD

Item	Price
•486SLC2/66 MHz 64K/CPU	$375
•486SLC2/50 MHz 64K/CPU	$315

HARD DRIVES

Item	Price
80 MB IDE	$139
105 MB IDE	148
120 MB IDE Conner 15ms	165
130 MB IDE 15ms	170
170 MB IDE 15ms	172
200 MB IDE	199
245 MB IDE 15ms	229
245 MB SCSI 13ms	269
340 MB IDE	299
545 MB IDE/SCSI	589
676 MB SCSI Fujitsu	710
1.7 GB SCSI	1146
1.2 GB Toshiba	965
1.3 GB SCSI Conner	999
1.3 GB SCSI Micropolis	925

MONITORS

Item	Price
15" MGC VESA 1280x1024 0.28 NI	$399
14" VGA Mono/Mono Monitor	105/88
14" SVGA .28 (1024x768)	240
14" SVGA .39 (1024x768)	215
14" VGA .52 (640x480)	185
14" SVGA 1024x768 NI	255
14" SVGA Impression NI	280
[illegible]" 0.28 (1024x768) Black	[illegible]08
ViewSonic 4E 0.28	275
ViewSonic 6E 0.28	299
ViewSonic 5+ 0.25	495
ViewSonic 17"	899
ViewSonic 21"	1990
Sony 304S	535
Sony 730	970
Samsung 15" .28	465
Samsung 17" .26 (1280x1024)	895
Nanao 550/W	1099
NEC FGe	699
NEC 5FGe	1125

KEYBOARDS

Item	Price
Mitsumi 101 Keyboard	$15
Keytronic 101 Keyboard	32
Fujitsu 4700 101 Keyboard	40
Maxi-Switch 101 Keyboard	30
BTC 101 Keyboard	20
FullCS9000/128K	59
101 Russian Keyboard	25
101 Spanish Keyboard	25

MOTHERBOARDS + CPU

Item	Price
486DX-66 MHz/256K/EISA & VESA Intel	$677
Diamond 486DX-66 MHz/256/2 VLB Intel	696
486DX-66 MHz/256K/2 VLB Intel	599
486DX-66 MHz/256K/ISA Intel	589
486DX-50 MHz/256K/EISA & VESA Intel	615
Micronics 486DX-50 MHz/2 VLB Intel	992
Orchid 486DX-50 MHz/2 VLB Intel	616
486DX-50 MHz/256K/2 VLB Intel	545
486DX-50 MHz/128K/ISA Intel	535
Orchid 486DX-33 MZHz/256K/2 VLB	464
486DX-33 MHz/128K/ISA Intel	389
486DX-33 MHz/256K/ISA Intel	399
486SLC-25 MHz/128K/ISA Cyrix	189
486SLC-33 MHz/128K/ISA Cyrix	199
486DX-40 MHz/128K/CPU	119
486SLC2/50LX IBM	259
386SX-33 MHz/CPU	82
386SX-25 MHz/CPU	72
286-16 MHz/CPU	65
286-12 MHz/CPU	50

NETWORK

Item	Price
8 Bit Ethernet Card (NE1000 Compat)	$39
16 Bit Ethernet Card (10Base-T/Coax)	56
16 Bit Ethernet Card BNC/AUI/RJ45	56
16 Bit (WD 8013 Compatible)	99

INTERFACE CARDS

Item	Price
IDE 2FD/2HD/2S 1P 1G	$13
IDE 2FD/2HD/2S 1P 1G Local Bus	39
IDE 4FDD/2HDD	32
IDE 2FD/2HD/2S VLB Cache Card UltraStor 12C ESP	190
Adaptec 274A EISA to Fast SCSI 2	378
Adaptec 1542C EISA SCSI	190

VIDEO CARDS

Item	Price
ATI Pro 1 MB ISA/VLB	$244/320
ATI Pro 2 MB VRAM EISA	335
ATI Pro 2 MB DRAM ISA	239
ATI Graphics Ultra Plus 1 MB	210
ATI Graphics Ultra w/1 MB & Mouse	179
Cirrus Logic w/1 MB	56
Cirrus Logic VLB w/1 MB	92
OAK SVGA 1 MB	46
Diamond Speedstar 24X w/Hi-Color & 1 MB	140
Diamond Stealth 24 w/Hi-Color & 1 MB	147
Diamond Stealth 24 VLB w/1 MB	160
Diamond Stealth Pro VRAM w/2 MB	340
Diamond Stealth Viper VLB w/2 MB	265
Genoa 8500 VLB w/1 MB	105
Orchid Fahrenheit VA801 w/Sound	142
Orchid Fahrenheit VLB w/1 MB	144
Orchid ProDesigner IIS w/1 MB	109
Trident 9000A w/256K	31
Trident 9000A w/512K	38
Trident 8900C/8900CL w/1 MB	58
Tseng Lab VLB w/1 MB/ISA Hi/1 MB	110/66

MISC.

Item	Price
Sound Card/Kit/2 Speakers	$65
Sound Commander FX/Speaker	90
Sound Blaster Pro 16 Bit	185
Sony CD ROM 31A	179
Mitsumi CD ROM	177
Toshiba CD ROM	399
CD ROM CD Software/5pc	90
250 MB Tape Back-Up DJ-20	175
120 MB Tape Back-Up DJ-10	145
Microsoft Mouse/OEM	89/36
Logitech Mouseman/Bus	65
Trackball Mouse	30
3 Button Mouse/Black	49/14
230W Power Supply	40
Desktop AT Case/230W	44
Mini Tower Case/230W	44
Mid Tower Case/250W	69
Full Tower Case/250W/2 Fans	98
1 MB 70/80 ns SIMMS	CALL
4 MB 70/60 ns SIMMS	CALL
256x9 70/80 ns SIMMS	CALL
486 and 386 CPU	CALL
80387 DX-40/33/25/16	65
80387SX/SLC	CALL

MODEMS

Item	Price
2400 Modem (9600 Send Fax Modem)	$27
Fax Modem (9600/2400) R/S	43
14400/14400 Fax Modem Ext V.32S/R	189
14400/14400 Fax Modem Int V.42	134

PRINTERS

Item	Price
Panasonic KX-P1123/2023	$199
Panasonic KX-P2124i	299
HP 4/4M/4L	1365/1910/690
HP Scanner 2C	1355

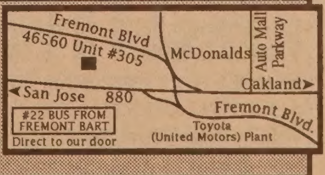
FLOPPY DRIVES

Item	Price
1.2 MB/1.44 MB Teac	$45/43
1.2 MB/1.44 MB Mitsumi	42/40
1.2 MB/1.44 Teac Black	46/44
1.2/1.44 MB Epson	42/40
1.2 MB/1.44 Teac Dual	12

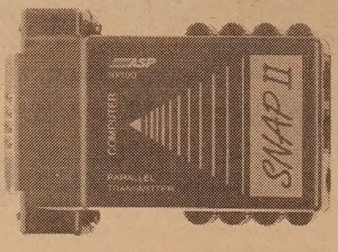
KINGSTAR COMPUTERS, INC.

46560 FREMONT BLVD. #305, FREMONT, CA 94538 OPEN MON-FRI: 8:30-5:30 • SAT: 11:00-4:00
TEL: 510-659-8590 Fax: 510-659-8644
ONE YEAR WARRANTY PARTS & LABOR ON ALL SYSTEMS

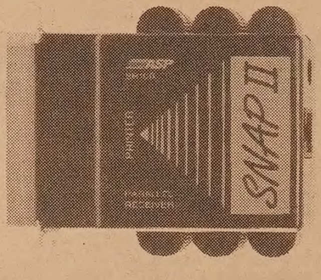
- Dealer Inquiries Welcome
- Prices Subject To Change W/O Notice
- Gov't PO's Welcome



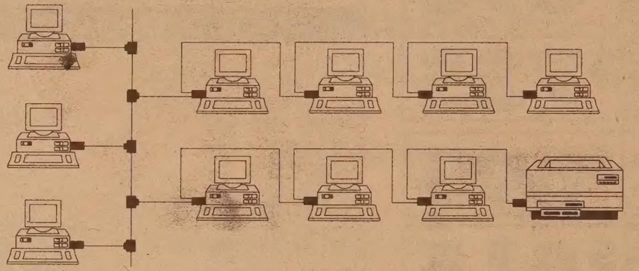
Hassle-Free Printer Sharing
Low-cost, modular printing network for up to 20 computers



SNAP transmitter - $59



SNAP receiver - $69



Here's how your printer sharing network can grow with your office. It's called *SNAP*. Simply plug a transmitter to the parallel port of each computer, a receiver to the printer and connect with up to 1400 feet of modular phone cable. As you add computers to your office, you simply "snap" them in anywhere along your existing *SNAP* network. *SNAP* lets you connect up to 20 computers to a printer or printer sharing device. 3-way couplers provided by ASP let you connect the computers in any configuration. Installation is a snap!

SNAP requires no software and no training! What could be easier? Everyone prints as they did before. No one has to move his or her furniture. In other words, *SNAP* is an instant network!

ASP offers a complete line of printer sharing solutions. To order your *SNAP* or for a dealer near you call:

800-445-6190
Dept. 2HCQG

ASP

ASP COMPUTER PRODUCTS, INC.
160 San Gabriel Drive, Sunnyvale, CA 94086
Phone: (408)746-2965, *FAX:* (408)746-2803

European Headquarters
La Boursidiere, RN186-BP109
92357 LE PLESSIS ROBINSON CEDEX, FRANCE
Phone: (33-1) 41-07-91-70, *FAX:* (33-1)41-07-91-79

Made in America

SNAP is a trademark of ASP Computer Products, Inc.

PRODUCTS YOU **NEED – BRANDS** YOU **KNOW – PRICES** YOU CAN **AFFORD**
Authorized Dealers for IBM, NEC, ALR, EPSON, AIR and many more

PRINTERS OF THE MONTH.

EPSON		
Action Laser 1500		$685
9-Pin Printers		
AP-2250/LX-810	240/48 cps	$128/$168
FX-870/1170	380/68 cps	$278/$358
DFX-5000	533 cps	$1295
24-Pin Printers		
Epson Action-3250	200/72 cps	$178
LQ-570/1070	252/84 cps	$238/$359
LQ-870/1170	330/110 cps	$468/$600
LQ-2550 color	400/133 cps	$898
VIDEO CARDS		
FAHRENHEIT P9000/VLB 3MB		$349
STEALTH 24 VESALocal Bus		$159
VIPER VESALocal Bus 2MB		$395
GRAPHICS ULTRA PLUS 1MB / 2MB		$225/$315

BEAT THE HIGH PRICES OF ACTIVE MATRIX COLOR NOTEBOOKS.
AND THEY ARE AVAILABLE TOO!!!
FAMOUS NAME BRAND.

- NP843T 486DX-33-4-240-6.7lbs $3625
- NP206T 486DX-33-4-200-8.5lbs $3345

THE PORTABLE PC DESIGNED FOR TRUE POWER HOGS.

PENTIUM SYSTEM AVAILABLE
'ALR' EVOLUTION V, 60 MHz SYSTEMS
$ 2395.00
FAX YOUR ORDER TODAY.

A and M Technologies
717 Market Street # 404
SAN FRANCISCO, CA 94103
Phone : (415) 974-3644 Fax : (415) 974-1318

MICROTIMES

CONTRIBUTORS

Kathleen Creighton is a longtime observer of the online world. She lives in Northern California and can be reached via the Internet at *casy@well.sf.ca.us.*

John C. Dvorak is a widely syndicated columnist and a seasoned traveler to parallel universes.

Jonathan E. writes about world music for our sibling publication, *BAM*. He's been working with desktop multimedia since 1968.

Bennett Falk works in the technical support department at Sybase. His book, *The Internet Roadmap*, will be published later this year.

Mitsu Hadeishi is the founder of Open Mind, a San Diego-based software company.

Paul Hoffman is an industry analyst who's been writing about microcomputer technology for ten years, and is the author of several books on computer-related topics.

Ed Kahn is a free-lance writer and consultant in the San Fernando Valley.

Mike Markowitz works in computer support at a large Southern California university.

David Morgenstern is a BMUG volunteer and works in the library at San Francisco State.

Robert Moskowitz is a business consultant based in Woodland Hills. He writes frequently on productivity, office automation, and technology.

Douglas J. Nakakihara is an Amiga zealot who works as a CPA when he's not chasing down the latest cool technology.

Fabian Pascal is a writer and consultant based in Palo Alto.

Tony Reveaux, a San Francisco-based consultant, is the editor of *Computer Publicity News* and writes the "MediaScan" column in *Film/TapeWorld*. He can be reached via Internet (*luna@well.sf.ca.us*) or MCIMail 290-3008.

Kevin Savetz is a free-lance writer based in Arcata.

John Walker cofounded Autodesk and served as its first president and chairman. He currently resides in Switzerland and works as a programmer in Autodesk's European technical center.

The scholarly **Birrell Walsh** works at KQED in San Francisco and takes an interest in languages from Sanskrit to Smalltalk.

Jim Warren founded assorted time-honored institutions of the computer industry and currently serves on Autodesk's board of directors.

BUILD YOUR COMPUTER WITH US!

LIFE-TIME WARRANTY

YOUR WORKSHOP

- Build your computer! A life-time experience. Every one should do it at least once.
- No experience needed. Wouldn't it be nice to know what makes your computer work?
- Life-time warranty on labor.
- It only takes a few hours.
- Once you purchase or build, Domino becomes your workshop to test, compare and explore future purchases.
- Eager to help, friendly, casual, and understanding. We welcome you.

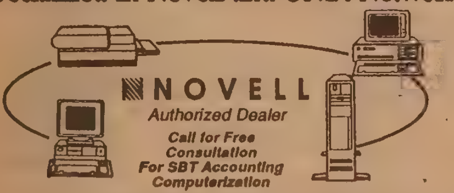
YOUR BUSINESS COMPUTER PARTNERS

- Support is around the corner.
- Network, integration, system expertise and consultation.
- Product and technical backups at any franchise location.
- Quality, reliability and extremely competitive pricing.

YOUR SERVICE AND UPGRADE CENTER

- You can go to any one of the thirty locations to service your Domino purchases.
- You can upgrade a 386 motherboard to a 486 motherboard cheaper than a service contract, we'll do it or you can do it yourself.
- You can test and upgrade your computer or peripherals by us or by you, any time and at any location with a life-time warranty on labor.
- You can try news things before you buy.

Specialized in Novell and UNIX Networks



NOVELL
Authorized Dealer
Call for Free Consultation For SBT Accounting Computerization

Domino Computer Network Service Group
510-623-7181

SPECIALS

IBM SLC 66MHz Motherboard w/ CPU & Coprocessor. Made in USA.	$360.00
Sony Internal 31A CD-ROM Set Kodak Photo CD Compatible	$185.00
MRi Monitors— Super VGA .28 d.p. non-interlaced 1024x768, 14". Quality you are looking for. We challenge everyone to compare.	$249.00 Don't Miss It!
Multimedia, Mr. Averkey VGA to TV display box. Display computer info to TV, record computer information to VCR	$289.00
386 DX 40 Motherboard w/CPU	$105.00
3.5" Diskettes with plastic case, 10 to each box. Excellent to keep track of programs, premium quality.	$8.50
VCR Tape "Build Your Own Computer"	$7.00

30 LOCATIONS TO SERVE YOU

DOMINO BUSINESS SOLUTION CENTERS AND NETWORK GROUPS:

OAKLAND
1238 Harrison
510 839-1800

PLEASANTON
6700 Santa Rita, Ste. D
510 847-1771

SUNNYVALE
1214 Apollo Way Ste. 404-2
408 749-0216

FREMONT
46573 Mission Blvd.
510 623-7181

DOMINO COMPUTER CENTERS

MILLBRAE
231 Millbrae Ave., Ste 101
415/259-8080

MILPITAS
976 Hanson Court
408/946-6991

SANTA CLARA
2536 Seaboard Ave.
408/955-9290

SAN RAFAEL
757 Lincoln Ave., Ste. 30
415/453-8525

BLOSSOM HILL
461 Blossom Hill Rd., Ste H-1
408/363-1800

SAN FRANCISCO
3400 Geary Blvd.
415/668-9311
OPEN SUNDAY

SUNNYVALE
1214 Apollo Way Ste. 404-2
408/730-1818

SANTA ROSA
1740 Santa Rosa Ave.
707/523-2055
OPEN SUNDAY

VALLEJO
480 Redwood St., Ste. 41
707/644-5055
OPEN SUNDAY

SACRAMENTO
3019 Arden Way
916/972-0311

BERKELEY/EMERYVILLE
1552 Beach St. Ste. B
510/653-6286

CAMPBELL
486 E. Campbell Ave. Ste 102
408/374-7477
OPEN SUNDAY

CONCORD
1130D Burnett Ave.
510/682-8934
OPEN SUNDAY

DALY CITY
7317 Mission Street
415/994-7581

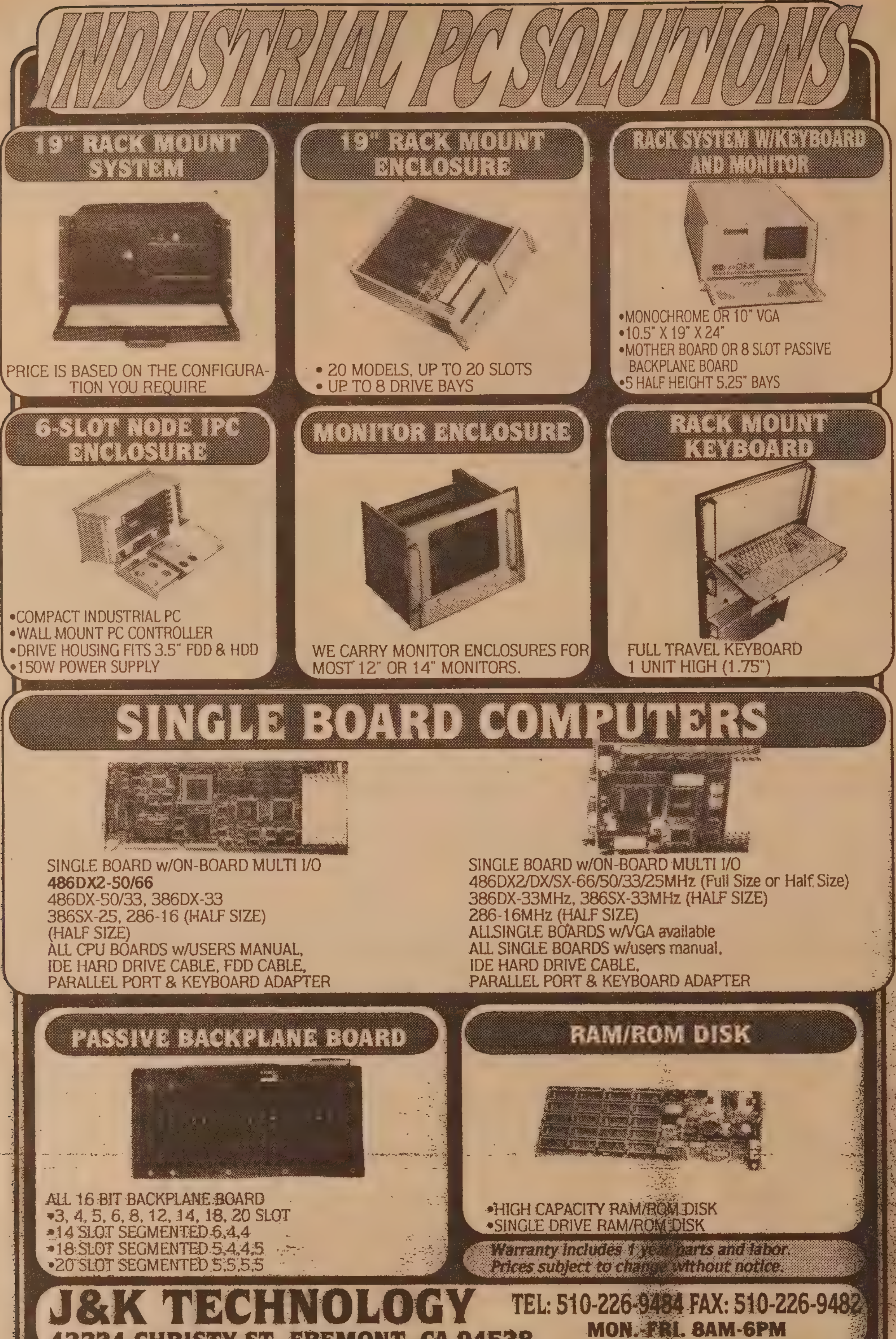
LOS ALTOS
111 Plaza North
415/941-7778

HAYWARD
26222 Industrial Blvd.
510/732-0377

SAN RAMON
2217 San Ramon Valley Blvd., Ste C
510/820-6022

100% Financing Available for both home & corporate users.
Prices subject to change w/o notice. Not responsible for typographical errors

Domino® COMPUTER
Your Neighborhood Workshop
Service and Upgrade Center



INDUSTRIAL PC SOLUTIONS

19" RACK MOUNT SYSTEM
PRICE IS BASED ON THE CONFIGURATION YOU REQUIRE

19" RACK MOUNT ENCLOSURE
- 20 MODELS, UP TO 20 SLOTS
- UP TO 8 DRIVE BAYS

RACK SYSTEM W/KEYBOARD AND MONITOR
- MONOCHROME OR 10" VGA
- 10.5" X 19" X 24"
- MOTHER BOARD OR 8 SLOT PASSIVE BACKPLANE BOARD
- 5 HALF HEIGHT 5.25" BAYS

6-SLOT NODE IPC ENCLOSURE
- COMPACT INDUSTRIAL PC
- WALL MOUNT PC CONTROLLER
- DRIVE HOUSING FITS 3.5" FDD & HDD
- 150W POWER SUPPLY

MONITOR ENCLOSURE
WE CARRY MONITOR ENCLOSURES FOR MOST 12" OR 14" MONITORS.

RACK MOUNT KEYBOARD
FULL TRAVEL KEYBOARD
1 UNIT HIGH (1.75")

SINGLE BOARD COMPUTERS

SINGLE BOARD w/ON-BOARD MULTI I/O
486DX2-50/66
486DX-50/33, 386DX-33
386SX-25, 286-16 (HALF SIZE)
(HALF SIZE)
ALL CPU BOARDS w/USERS MANUAL,
IDE HARD DRIVE CABLE, FDD CABLE,
PARALLEL PORT & KEYBOARD ADAPTER

SINGLE BOARD w/ON-BOARD MULTI I/O
486DX2/DX/SX-66/50/33/25MHz (Full Size or Half Size)
386DX-33MHz, 386SX-33MHz (HALF SIZE)
286-16MHz (HALF SIZE)
ALLSINGLE BOARDS w/VGA available
ALL SINGLE BOARDS w/users manual,
IDE HARD DRIVE CABLE,
PARALLEL PORT & KEYBOARD ADAPTER

PASSIVE BACKPLANE BOARD
ALL 16 BIT BACKPLANE BOARD
- 3, 4, 5, 6, 8, 12, 14, 18, 20 SLOT
- 14 SLOT SEGMENTED 6,4,4
- 18 SLOT SEGMENTED 5,4,4,5
- 20 SLOT SEGMENTED 5,5,5,5

RAM/ROM DISK
- HIGH CAPACITY RAM/ROM DISK
- SINGLE DRIVE RAM/ROM DISK

Warranty includes 1 year parts and labor.
Prices subject to change without notice.

J&K TECHNOLOGY
43224 CHRISTY ST. FREMONT, CA 94538
TEL: 510-226-9484 FAX: 510-226-9482
MON.-FRI. 8AM-6PM

DISCOVER THE CUPERTINO COMPUTERS DIFFERENCE!

LARRY WOOD - OWNER

386DX-40C128	$349
486DLC-33C128	379
486DX-33C256	619
486DX-50C256	759
486DX2-66C256	839
486DX-33 VESA LB	629

1 YEAR PARTS, 3 YEAR LABOR WARRANTY ON ALL SYSTEMS
MON-FRI 10:00-6:00
SATURDAY 11:00-4:00
SALE PRICES FOR CASH CUSTOMERS NO CREDIT CARDS
Corporate P/O's Welcome
Prices & availability subject to change w/o notice

STANDARD SYSTEM: Motherboard & CPU, 1 MB RAM, Desktop or Mini-Tower Case, 230 Watt Power Supply, 101 Key Enhanced Keyboard, 2 Hard/2 Floppy Disk 1:1 Controller Card, AMI Bios, 1.2 or 1.44 MB Floppy Drive, 2 Serial/Parallel/Game I/O Ports.

CUPERTINO COMPUTERS INC.
10675 S. DE ANZA BLVD., CUPERTINO, CA 95014
TEL: (408) 255-5997 FAX: (408) 255-7699

Bay Area's Computer Magazine
MICROTIMES

BPA

EDITOR-IN-CHIEF
Dennis Erokan
PUBLISHER
Chuck Stanley
EDITORIAL 510-934-3700
EDITOR Mary Eisenhart
ASSISTANT EDITOR Michael Robin
NEWS EDITOR Paul Hoffman
SENIOR DESIGNERS Rick Colby, Monika Lukenbill
CONTRIBUTING EDITORS Lenny Bailes, John Perry Barlow, John C. Dvorak, Jonathan E., Bennett Falk, Mitsu Hadeishi, Ed Kahn, Mitchell Kapor, Matthew Leeds, Mike Markowitz, Brock Meeks, David Morgenstern, Douglas J. Nakakihara, Tony Reveaux, Birrell Walsh, Jim Warren, Wayne A. Yacco
CONTRIBUTING WRITERS Mikael Blaisdell, Jennifer Robin Cherniss, Anna Couey, Kathleen Creighton, Adam Gaffin, Rich Grace, Peter John Harrison, Fred Lieberman, Woody Liswood, Robert Moskowitz, Kevin Savetz, David A. Simon, CPA, John Wolcott
BBS RESEARCHER David Remus
CONTRIBUTING PHOTOGRAPHERS Jay Blakesberg, Michael Jay, Susana Millman, Ann Summa, Paul Winternitz
ADVERTISING 510-934-3700
DIVISION BUSINESS MANAGER Amy Barrett
SALES MANAGER Cynthia Lapporte (Southern California)
AD DIRECTOR Greg Sage
SENIOR ACCOUNT DIRECTOR Barry Green (Northern California)
NATIONAL ACCOUNT DIRECTOR Jane Shepherd (Southern California)
ACCOUNT EXECUTIVES Melissa Campbell, Marty Gillow, Tracy Longo, Ken Marson, Herb Mendelsohn, Debra Siegel, Chloe Vezo
CLASSIFIED & SUBSCRIPTION MANAGER Jennifer Kosta (Northern California)
ADVERTISING SERVICES ASSISTANT Carolyn Guerrero (Northern California)
Warren La Guzza (Southern California)
PRODUCTION
GROUP PRODUCTION DIRECTOR Richard Lesovoy
GROUP PRODUCTION MANAGER Mary Beth DeSantis
PRODUCTION ASSISTANT Wendy Sloneker
TRAFFIC ASSISTANT Matt Matuska
ART STAFF Jennifer Bagwell, Donna Bogener, Paul Dorian, Gigi, Robyn Hartt, Michelle Logan, Cheryl McGrath, Stephen Noetzel, Diane Wallace
CAMERA OPERATOR John Moorehead
PROOFREADER John Downen
TYPESETTING The Typesetting Shop, Inc.
ADMINISTRATION
CONTROLLER Patricia Buck
SENIOR ACCOUNTANT Linda May
ACCOUNTING Joaquin Arellano, Kim Carrington, Vickie Liu, Brian Murray, Bonnie Peterson
CREDIT MANAGER Doug Morgan
HUMAN RESOURCES DIRECTOR Erica Stein-Oakley
L. A. OFFICE MANAGER Deborah Daiken
ADMINISTRATIVE ASSISTANTS Christine Garcia, Leta Jesch
L. A. ADMINISTRATIVE ASSISTANT Melissa Cichocki
DISTRIBUTION 510-934-3700
DISTRIBUTION MANAGER John Erokan
Assistant Manager/LA Art Holland
DISTRIBUTION ASSISTANT Tami Martin
DISTRIBUTION CLERK Virgil Cecilio
FIELD COORDINATORS Roe Eyth, Frank Grygus
DISTRIBUTION Dennis Anderson, John Clefstad, Don Karr, Juan Lau, Jac Michanovic, Robbie Myers, Curtis Ng, Kelly Orr, Joseph Rafalo, Reliable Circulation, John Dimas Rezendes, SPS, Wilfredo Villarroel
PUBLICATIONS BAM Magazine, DRIVE! Magazine, SF Downtown
FOUNDERS
Dennis Erokan, Don Hamilton, Pat Hamilton

This Vol. 10 No. 9 August 23, 1993, Whole No. 112 MicroTimes, California's Computer Magazine, is published by BAM Publications, Inc., 3470 Buskirk Ave., Pleasant Hill, CA 94523. Phone Advertising Office (510) 934-3700. Los Angeles Office, 6767 Forest Lawn Drive, Suite 110, Los Angeles, CA 90068. Phone (213) 851-8600. San Jose Office, 36 Harold Ave., Suite 2, San Jose, CA 95117. Phone (408) 244-4400. Anaheim Office, 801 East Katella Ave., Suite #210, Anaheim, CA 92805. Phone (714) 939-2809. MicroTimes™ is © 1993 by BAM Publications, Inc. Subscription rates: 13 issues, U.S.: 3rd Class $32 (Allow 3 to 4 weeks for delivery), 1st Class $60 Allow 1 to 2 weeks for delivery). MEXICO & CANADA: Surface Mail $50 (Allow 4 weeks for delivery). Air Mail $70 (Allow 1 week for delivery). OVERSEAS: Surface Mail $50 (Allow 6-10 weeks for delivery), Air Mail $165 (Allow 1 week for delivery). To receive sample issues, please send $4 ($6 for overseas) to cover postage costs. Back issues are $6 each. All rights reserved. Reproduction in whole or in part without permission of Publisher is strictly prohibited. The staff and management of MicroTimes do not advocate or encourage the use of any product or service advertised herein for illegal purposes.

M.P. COMPUTER IS YOUR SOURCE FOR MAC SYSTEMS & PERIPHERALS!!

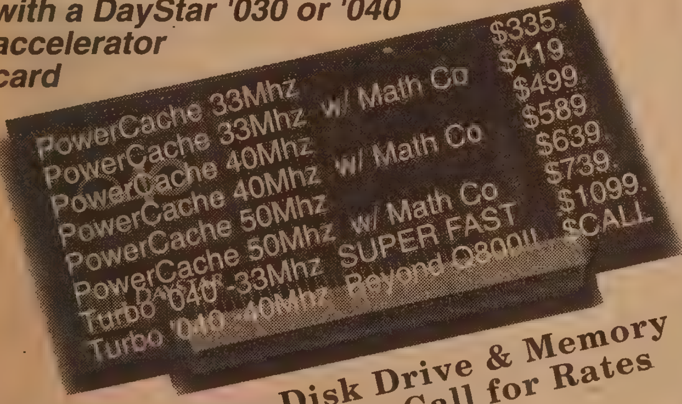
M.P. COMPUTERS IS YOUR NEW & RECONDITIONED MAC HEADQUARTERS

Macintosh + 1mb	$299.
Macintosh Classic II 4/40	$499.
Macintosh IIci - All Configurations	$899.
Macintosh SE/30 4/40	$899.
Macintosh LC I, II, & III	IN STOCK
Macintosh IIfx 8/80	$1699.
Macintosh Quadra 900 4/160 NEW	$2599.
Macintosh Quadra 800 8/230 NEW	$3099.
PowerBook 140 4/40	$1249.
PowerBook 145 4/80	$1299.
PowerBook 170 4/40 with MODEM!	$1599.
PowerBook 170 2/80 NEW	$1849.
PowerBook 165c 4/40 SPECIAL	$2099.
PowerBook 180c	$CALL

TOSHIBA 3401B 200ms External CD Rom $489.00!

DAYSTAR
DIGITAL

SUPERCHARGE your Macintosh with a DayStar '030 or '040 accelerator card



PowerCache 33Mhz	$335.
PowerCache 33Mhz w/ Math Co	$419.
PowerCache 40Mhz	$499.
PowerCache 40Mhz w/ Math Co	$589.
PowerCache 50Mhz	$639.
PowerCache 50Mhz w/ Math Co	$739.
Turbo '040 -33Mhz SUPER FAST	$1099.
Turbo '040 -40Mhz Beyond Q800!!!	$CALL

M.P. Provides Disk Drive & Memory Service Upgrades! - Call for Rates

MAC MEMORY

•Quadra 700, 900, 950	
4, 8 & 16 Meg	$CALL
•Centris, Quadra 800, & LC-III	
4, 8 and 16 Meg	$CALL
30 Pin (Std.) - for most Mac's	
1 Meg SIMMS	$CALL
4 Meg SIMMS	$CALL

•PowerBooks
All Sizes Available

•Macintosh Duo
All Sizes Available

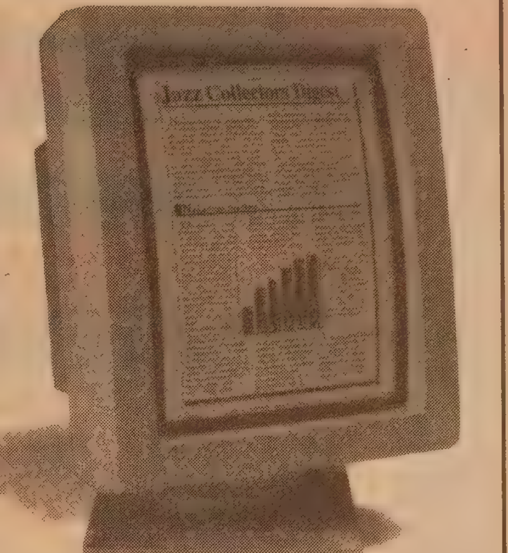
RASTEROPS®
THE ART & SCIENCE OF COLOR™

DISPLAY CARDS

8XI -Afforable 8 bit for up to 21"	$449.
24mx-24bit up to 16" NEW PRICE	$589.
24STv-24bit with on screen video	$749.
PaintBoard Li -24 bit Accel. to 20"	$779.
8Li-8bit Accellerated to 20"	$329.
MoviePak-30fps Frame Capture	$799.
Editing Ace Suite-Great Reviews	$2999.

DISPLAYS

15" G/Scale Full Page for OnBoard	$359.
21" GrayScale 2 Page Display	$999.
16" Sweet 16 Color Display	$1029.
20" 20/20 Multmode Display	$1525.
20" 2075RO Multiscan Trintron	$2199.
21" 2168 Color 2 Page Display	$2149.



RasterOps 364 - 24 bit w/ Onscreen video, & Frame Capture - SPECIAL 399!!

Hard Disk Solutions

Conner 170mb 12ms Internal	$229.
Conner 212mb 12ms Internal	$319.
Quantum 240mb 12ms Internal	$249.
Maxtor 330mb 15ms Internal NEW	$399.
Maxtor 245mb 15ms Internal	$289.
Toshiba 213mb PBook Internal	$535.
Micropolis 560mb Internal	$869.
Fujitsu 535mb 9ms Internal	$789.
Toshiba 877Mb 3.5" Internal	$899.
Toshiba 1.2Gb 3.5" Internal	$1049.
Micropolis 1.2gb 3.5" Internal	$1079.
Fujustu 1.2Gb 3.5" Internal	$999.
Maxtor 1.2Gb 3.5" Internal	$1099.

Monitors / Displays

KEC MultiRes VGA for Mac & PC	$299.
Magnavox 14" RGB w/ Tilt/Swivel	$399.
NEC 3fgx 15" Multisync Display	$609.
NEC 3fge 15" MultiSync Display	$599.
NEC 4fge NEW 15" MultiSync	$699.
PinPoint 20" MultiMode Trinitron	$1579.
Philips NEW 20" M/Mode Trinitron	$2199.

UMAX

UC630LE 600dpi w/Photoshop	$849.
UC840 800dpi w/Photoshop v2.5	$1199.
Transparency/Slide Adapter	$699.

- *Major credit cards accepted*
- *Memory guaranteed forever*
- *Leasing options available*
- *Tech support for customers*
- *Int'l clients welcome to buy*
- *Fortune & Govt. P.O.s - OK*

MACINTOSH & APPLE II SYSTEMS
BUY • SELL • TRADE • NEW & USED
Call for pricing & availability.

SUPERMAC

Spectrum 8•24PDQ 24 Bit	$599.
Spectrum 24 Ser. IV 24 bt Acc. to 20"	$799.
Spectrum 24 PDQ+ 24 bt Acc. to 21"	$1479.
Thunder 24 -Ultra Fast 24 bit	$2199.
Thunder II - The FASTEST 24 Bit	$3099.
Thuner II Light - "No frills" Speed	$2699.
ThunderStorm Pro	$2779.
17•T 17" Multi Mode Trinitron	$1049.
20•T XL 20" Multimode Trinitron	$2549.
SuperView-Video out for most PowerBooks, SE/30's, and Classics SPECIAL	$209.

WE CARRY ALL SUPERMAC ITEMS

E-MACHINES™

PowerLink Presentor for PowerBook	$449.
Futura SX 24 bit Accel. for up to 16"	$479.
Futura MX 24 bit Accel. up to 20"	$799.
T-16 II 16" MultiMode Trinitron	$1279.
T-20 20" MultiMode Trinitron	$2049.
T-16/SX Display & Card Bundle	$1749.
T-20/MX Display & Card Bundle	$2799.

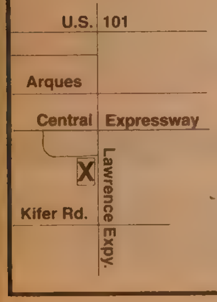
Lapis

Cards for Mac II family, LC's, and SE/30

ProColor Server 8 bit	$299.
ProColor Server 8 • 16 (16/8 bit)	$369.
ProColor Server 24 (24/8 bit)	$399.

1 & 2 Page displays- Mac+ to Quadra 800

15" Full PagePortrait Display w/card	$479.
15" Full Page Grayscale w/card	$849.
19" 2 Page Monochrome w/card	$899.
19" 2 page Grayscale w/card	$1099.



M.P.
COMPUTER MICRO SYSTEMS

M.P. - COMPUTER
Micro Systems

3004 Lawrence Expressway • Santa Clara, CA • 95051
Providing Quality Macintosh Solutions Since 1986
Ph:408-481-9600•Fax:408-481-9604

- HOURS -
- MON - FRI -
8:00-5:30
-SATURDAY-
BY
APPOINTMENT

MDS MICROLINK-PC SPECIALISTS

WARRANTY: 2 YEARS ON MOTHERBOARD

VESA LOCAL BUS SYSTEMS

486SX-33

- 33MHz 486SX Intel Processor w/ZIF Socket (Upgradable to Pentium)
- 4MB RAM/256K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- Local Bus 32-Bit IDE Interface
- VESA (32) Local Bus 24-Bit Hi-Color SVGA w/1MB
- 14" Color SVGA 1024 NI .28 (70Hz)
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots, 2 with 32-Bit VESA Local Bus
- 101-Key Keyboard
- MS-DOS & Mouse

$1395 **Pentium Processor Ready**

486DX-33

- 33MHz 486DX Intel Processor w/ZIF Socket (Upgradable to Pentium)
- 4MB RAM/256K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- Local Bus 32-Bit IDE Interface
- VESA (32) Local Bus 24-Bit Hi-Color SVGA w/1MB
- 14" Color SVGA 1024 NI .28 (70Hz)
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots, 2 with 32-Bit VESA Local Bus
- 101-Key Keyboard
- MS-DOS & Mouse

$1515 **Pentium Processor Ready**

486DX-50

- 50MHz 486DX Intel Processor w/ZIF Socket (Upgradable to Pentium)
- 4MB RAM/256K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- Local Bus 32-Bit IDE Interface
- VESA (32) Local Bus 24-Bit Hi-Color SVGA w/1MB
- 14" Color SVGA 1024 NI .28 (70Hz)
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots, 2 with 32-Bit VESA Local Bus
- 101-Key Keyboard
- MS-DOS & Mouse

$1695 **Pentium Processor Ready**

486DX2-66

- 66MHz 486DX2 Intel Processor w/ZIF Socket (Upgradable to Pentium)
- 4MB RAM/256K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- Local Bus 32-Bit IDE Interface
- VESA (32) Local Bus 24-Bit Hi-Color SVGA w/1MB
- 14" Color SVGA 1024 NI .28 (70Hz)
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots, 2 with 32-Bit VESA Local Bus
- 101-Key Keyboard
- MS-DOS & Mouse

$1735 **Pentium Processor Ready**

ISA SYSTEMS

386DX-33/40

- 33/40 MHz 386 Processor
- 4MB RAM/64K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 80MB 17ms IDE Hard Drive
- SVGA Card w/1MB
- 14" Color SVGA Monitor .28
- Mini Desktop Case
- 8 16-Bit ISA Slots
- 101-Key Keyboard
- MS-DOS & Mouse

$1050

486SX-25

- 25MHz 486SX Intel Processor
- 4MB RAM/128K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 120MB 15ms IDE Hard Drive
- SVGA Card w/1MB
- 14" Color SVGA Monitor .28
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots
- 101-Key Keyboard
- MS-DOS & Mouse

$1150

486DX-33

- 33MHz 486DX Intel Processor
- 4MB RAM/128K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- SVGA Card w/1M B
- 14" Color SVGA Monitor .28
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots
- 101-Key Keyboard
- MS-DOS & Mouse

$1360

486DX-50

- 50MHz 486DX Intel Processor
- 4MB RAM/256K Cache
- Teac 5.25" & 3.5" Diskette Drives
- 130MB 15ms IDE Hard Drive
- SVGA Card w/1MB
- 14" Color SVGA Monitor .28
- Middle Tower Case w/250W Power
- 8 16-Bit ISA Slots
- 101-Key Keyboard
- MS-DOS & Mouse

$1540

NICE VESA EISA 486

- Intel 486 Microprocessor
- American-made Motherboard
- 3 EISA, 5 ISA, 2 VL-Bus Slots
- Built-in Math Co-Processor
- Full Tower w/UL 250W & Speed Display
- AMI BIOS with built-in Setup Utilities
- 256K of 20ns Cache, exp. to 1MB
- 8MB of 70ns RAM, exp. to 128MB
- 340MB 12ms IDE Hard Drive
- TEAC 1.2 and 1.44MB Floppy Drives
- VESA 32 Bit SVGA Graphic Card
- VESA 32 Bit IDE Controller
- MAG 15" Non-interlaced SVGA Color Monitor (Flat Screen, 1280x1024, 0.28, 76Hz Refresh Rate, PC Magazine Editor's Choice)
- 101 Enhanced-Style Keyboard
- 2 Serial /1 Parallel
- Free Microsoft DOS 6.0
- Free 3-Button Hi-Resolution Mouse

Corporate Choice!

486DX-33MHz	[illegible]
486DX-50MHz	[illegible]
486DX2-66MHz	[illegible]

NICE SUPER EISA 486

- Intel 486 Microprocessor
- American-made 6 Layer Motherboard
- 8 EISA, [illegible] VL-Bus Slots
- Built-in Math Co-Processor
- Full Tower w/UL 250W & Speed Display
- AMI BIOS with built-in Setup Utilities
- 256K of 20ns Cache, exp. to 1MB
- 8MB of 70ns RAM, exp. to 256MB
- 340MB 12ms IDE Hard Drive
- TEAC 1.2 and 1.44MB Floppy Drives
- VESA 32 Bit Fahrenheit Windows Accelerator
- EISA 32 Bit IDE Controller
- MAG 15" Non-Interlaced SVGA Color Monitor (Flat Screen, 1280x1024, 0.28, 76Hz Refresh Rate, PC Magazine Editor's Choice)
- 101 Enhanced-Style Keyboard
- 2 Serial /1 Parallel
- Free Microsoft DOS 6.0
- Free 3-Button Hi-Resolution Mouse

486DX-33MHz	[illegible]
486DX-50MHz	[illegible]
486DX2-66MHz	[illegible]

UPGRADES & OPTIONS

Deluxe MULTIMEDIA

- Texel DM 3024 Internal CD-ROM
- Media Vision Spectrum 16 Sound Card
- Mayo Clinic Software
- CD Caddy
- CS 150 Labtec 3.6 Watt Speakers
- Anti-Static Wrist Strap

$525

Come see our CD title options at the store!

STORAGE & MISC.

On-Board Memory	$50/MB
85 to 130MB HDD	$50
130 to 210MB HDD	$100
210 to 250MB HDD	$30
250 to 340MB HDD	$260
340 to 500MB HDD	$300
SCSI HDD's	CALL
CPU Heatsink/Fan	$15/25
2400 Modem	$39
9600/2400 Fax/Modem	$60
9600/9600 Fax/Modem	$165
9600/14400 Fax/Modem	$179
14400/14400 Fax/Modem	$189

DISPLAY

Upgrade from VESA SVGA to Fahrenheit VLB	$99
Diamond Stealth VLB	$109
ATI Pro II/2MB VRAM	$300
Diamond Viper VLB	$340
14" 1024I to 14" 1024NI	$45
14" 1024NI to 15" 1280NI	$145
15" 1280NI to 17" 1280NI	$395
NEC & Other Brands	Call

NOTEBOOKS

4MB to 8MB RAM	$220
4MB to 20MB RAM	$1000
120MB to 210MB HDD	$220
Pocket Fax/Modem 96/24	$120
Docking Station	$295
Extra Battery	$99

Twinhead Upgrade Options . . . . . Call

CALL FOR CUSTOMIZED CONFIGURATION AND LOCAL AREA NETWORKS

Check With Your Local Better Business Bureau!

Since we've been in the business for 8 years, MDS knows how to build your system right the first time. Our satisfied customers include NASA, PG&E, Stanford University, Pacific Bell, National Semiconductor, AMD, Stanford Federal Credit Union, Wells Fargo Bank and many more...

SANTA CLARA
3472 El Camino Real
Santa Clara, CA 95051
800-675-5465
408-261-0628
Fax: 408-261-0639
M-F 9:30-6 Sat. 10-5

SAN FRANCISCO
3210-3212 Geary Blvd
San Francisco, CA 94118
800-748-6323
415-750-0863
Fax: 415-750-0649
M-F 9-6 Sat. 10-5

BERKELEY
2324 Shattuck Avenue
Berkeley, CA 94704
800-938-8283
510-540-8283
Fax: 510-540-8285
M-F 9-6 Sat. 10-5

SACRAMENTO
6644 Fair Oaks Blvd
Carmichael, CA 95608
916-488-8523
M-F 9-6 Sat. 10-5

• 1 Year on Other Parts • 3 Years on Labor

0% Financing No Payments Until November

Corporate Choice!

MONTHLY SPECIAL
Archive/Colorado/Summit
Tape Back-up, 250MB
$160 with
System Purchase

Twinhead NoteBooks

Twinhead NOTEBOOKS

Standard Features:
- *Two Serial Ports*
- *One Parallel/External Floppy Drive Port*
- *One External SVGA Port*
- *One External Keyboard Port*
- *One 100-pin Expansion Port*
- *Optional Internal 96/24 Fax/Modem*
- *Optional Built-In Trackball*
- *Optional carrying case*
- *120V/240V AC/DC Adapter/Charger*
- *FREE MS DOS 5.0 and MS Windows w/Manuals*
- *One Year Warranty Service by Twinhead*

486DX/33T
- *4MB RAM expandable to 20MB*
- *130MB Hard Drive (200MB Available)*
- *3.5" 1.44MB Floppy Drive*
- *8.5" Active Color Matrix. 256 Colors, 512KB video RAM*
- *8.5" x11"x 1.8" 6.3lbs w/Battery*

$3690

Passive Matrix Available-Call for Details

486DX/33M
- *4MB RAM expandable to 20MB*
- *130MB Hard Drive (200MB Available)*
- *3.5" 1.44MB Floppy Drive*
- *10" Paper White Display. 64 Shades of Gray, 256KB video RAM*
- *8.5" x11"x 1.6" 5.8lbs w/Battery*

$1995

Twinhead Sub-Note

Twinhead Sub-Note

486SLC-33MHz Sub-Note
- *2MB RAM Exp. to 4 or 8MB*
- *8" Side-Lit VGA 64 Shades of gray 256K VRAM*
- *Built-In Trackball*
- *85MB IDE Hard Disk Drive*
- *External 1.44MB Floppy Drive*
- *79-Key Keyboard, Inverted "T" Cursor*
- *1 Serial, 1 Parallel ports*
- *DOS 6.0/ MS Windows 3.1 w/Manual*
- *Dimensions: 7.1" x 10" x 1.6", weighs 4lbs w/battery*

OPTIONS
- *Internal Fax/Modem*
- *Carrying Case*

$1450

NTC Local Bus 486

NTC LOCAL BUS 486

32-Bit Local Bus Notebook

Configuration
- *Local Bus IDE & Local Bus VGA Display*
- *4MB RAM expandable to 20MB*
- *Super Fast 120MB Hard Drive (212MB Optional)*
- *3.5" 1.44MB Floppy Drive*
- *10" Mono LCD VGA 640x480, 32 Grays*
  10" Passive Matrix Color LCD VGA 640x480, 256 Colors
  10" Active Matrix Color LCD VGA 640x480, 256 Colors
- *Simultaneous CRT & LCD Operation*
- *Large Built-In 16MM Trackball*
- *PCMCIA Slots*
- *Ports for 1S,1P, Ext. Keyboard, VGA Monitor, & AT/Bus for Docking Station*
- *86-Key Keyboard*
- *Microsoft DOS 6.0*
- *Carrying Bag & AC Adapter*
- *Weight: 6.5lbs (w/Battery)*
- *11"W x 8.6"D x 1.77"H*
- *One Year Parts & Labor Warranty*

FEATURES
- *Intel 486 Upgradable CPU (486SX>486Dx>486Dx2)*
- *Upgradable LCD Display: (Mono>Passive(STN) > Active(TFT))*
- *180 Degree LCD Display Angle Rotation*
- *PCMCIA Slots*
- *Flash ROM for BIOS Upgrade thru Software*
- *Intelligent Power Management (Automatically detects whether CPU is busy or not; When idle, CPU clock is automatically cut to low)*
- *2-Hour Quick Charge*

OPTIONS
- *Car Adapter*
- *Battery Charger*
- *Docking Station*
- *PCMCIA Cards (Memory, Fax/Modem, Ethernet LAN Adapter & Mouse)*

CPU / Display	Mono	Color Passive	Color Active
486DX-33	$2095	$2695	$3665
486DX2-66	$2375	$2975	$3945

NANAO, NEC, SONY, MAG, ATI, ORCHID, DIAMOND, VIEWSONIC, TEXEL

Need repairs on old computers and laptops? Call us.
We service all name brands and OEMs at hard-to-believe prices.

"THE PREMIERE NETWORKING SPECIALISTS"

NOVELL.

SCO
THE SANTA CRUZ OPERATION

Novell
Certified
NetWare
Engineer

SUPER-TUNED FILE SERVER

- Intel 486DX2-66MHz Microprocessor
- US Made NICE 6 Layer Motherboard
- 8 EISA, 1VL-Bus Slots
- AMI BIOS with Built-In Setup Utilities
- 256K 20ns Cache expandable to 1MB
- 16MB On-Board 70ns Fast RAM exp. to 256MB
- Fujitsu M2624FA 520MB SCSI-2 HD w/64KB, 12ms
- Adaptec 1742A 32-Bit EISA SCSI-2 Controller
- TEAC 1.44MB Floppy Drive
- Super I/O 2 Serial, 1 Parallel
- Trident 9000 16-Bit SVGA w/512K KB RAM
- 14" Monochrome Monitor
- Colorado 250MB Internal Tape Back Up w/2 Tapes
- Mitsumi 101 Enhanced Keyboard
- Intel EtherExpress 32-Bit Coaxial Ethernet Card
- APC Smart-UPS 600 w/Powerchute Plus UPS Monitoring Software
- Full Tower Case w/300W Power Supply
- MS-DOS 6.0 w/Manual

$4199

We Custom-Make Your Configuration.

We do routine maintenance and emergency service.

And Much More...

Call MDS Computer and discover Quality, Great Service and the Lowest Prices Around!

ULTRA-FIT WORKSTATION

- Intel 486DX-33MHz Microprocessor
- US Made NICE ISA Motherboard
- AMI BIOS with Built-In Setup Utilities
- 256K 20ns Cache expandable to 1MB
- 4MB On-Board 70ns Fast RAM exp. to 256MB
- Maxtor LXT 7130A 130MB IDE Hard Drive w/32K Cache, 15ms
- TEAC 1.44MB Floppy Drive
- Trident 8900CL 16-Bit SVGA w/1MB RAM
- Socos 14" SVGA Non-Interlaced Monitor (.28mm)
- IDE 2FD/2HD Controller w/2S, 1P, 1G IO Ports
- Intel EtherExpress 16-Bit Coaxial Ethernet Card
- APC Smart-UPS 600 w/Powerchute Plus UPS Monitoring Software
- Medium Tower Case w/250W Power Supply
- Mitsumi 101 Enhanced Keyboard
- MS-DOS 6.0 w/Manual

$1699

NETWORK ACCESSORIES

INTEL

EtherExpress Flash LAN Adapter (combo)	$155
EtherExpress 16 coax /16 TP	135/139
EtherExpress 5 pack coax/ TP	545/555
EtherExpress 16 MCA /16MCA TP	179/189
EtherExpress 32 EISA	439
12 port Hub EtherExpress ISA Adapter	565
12 port Hub EtherExpress EISA Adapter	645
LAN Protect 1.5 (Virus Protection)	685
LAN Sight 3.0 Netware Utility / Monitor	299
LANSpool s/w 386 NLM V 3.5.8	425
NetPort II Thin / Thick Ethernet	519
NetPort II 10 Base T	529
NetPort Token Ring	759
NetSatisfaction V.2 (s/w for Novell)	955
RJ45 Harmonica	55
TokenExpress 16/4 ISA / EISA / MCA	535/685/535

NOVELL

Novell NE 1000 coax Ethernet (special)	$99
NE 2000 plus coax Ethernet / 5 pack	139/595
NE 2000 TP plus TP Ethernet / 5 pack	135/575
NE 2000 Netware Lite starter kit	365
NE 2000 plus combo / 5 pack	145/650
NE 3200 Eagle coax EISA	675
NE 3200 EXOS coax EISA	625
NTR 2000 Token Ring	435
Eagle NE 10T 4 port Hublet	225
EPROM for NE 2000	35
EXOS NE 10T-Hub, 8 port (8 TP + 1 coax)	335

NETWORK ACCESSORIES

3-COM

3C503 8 bit coax / TP Ethernet	$179/199
3C503 16 Etherlink II 16-bit coax /TP	169/179
3C507 16 bit coax Ethernet / 5 pack	279/1250
3C507 TP 16 bit TP Ethernet / 5 pack	299/1450
3C509 Ethernet III coax /5 pack	139/625
3C509 Ethernet III TP /5 pack	145/650
3C509 Combo	155
3C579 Ethernet III EISA coax / TP	245/249
3C529 Ethernet III for MCA	245
3C529 TP EtherLink III for MCA	249
3C621 Link Builder 10 BT (12 port)	745
3C623 Single port BNC Module	125
TokenLink III 16/4 ISA/MCA/EISA	465/495/699
Link Match SNMP/NLM software	269

SMC (WESTERN DIGITAL)

Ethercard Plus Elite 8 bit coax	$115
Ethercard Plus Elite 16 coax/ 16 TP	139/145
Ethernet Plus Elite 6 pack 16 coax / 16 TP	725/750
3016 16 bit coax / 16 bit TP	145/149
Ethercard Elite 16 combo / 16 pack	175/840
Ethercard Plus / A for MCA TP	215/219
Ethercard Elite 32 bit coax / TP	650/660
Netware Boot ROM for Ethernet	34
8 Port Concentrator (8 TP + 1AU)	339
12 Port Concentrator (12TP+2AU+1 BNC)	595
Token Ring 16/4 ISA/MCA	379
WD 8003 EP Ethernet Plus Elite 8 bit coax	49
WD Lan ETP 8 bit TP (cable included)	39
WD Lan 10T /A for MCA (cable included)	65

SOFTWARE

CC:MAIL

cc:Mail DOS V4.0	$199
cc:Mail WIN Platform	339
cc:Mail 10 User / 25-User pack	239/579
cc:Mail Gateway V3.21	879
cc:Mail FAX V1.2	1350
cc:Mail Remote	199

NOVELL

Netware Lite 1.1 + DR DOS 6.0	$65
Netware Lite w/WIN Utilities	75
Netware 2.2	
5/10/50/100-User	489/1089/1995/2955
Netware 3.11	
5/10/20-User	599/1345/1885
50/100/250-User	2650/3859/6885
Netware 4.0	
5/10/25-User	935/2095/2895
50/100/250-User	3925/5495/9695

POWER SUPPLIES

AMERICAN POWER CONVERSION (UPS)

APC-400 Smart-UPS (286, 386 WS)	$309
APC-600 Smart-UPS (386, 486 FS)	399
APC-900 Smart-UPC (386, 486, FS &WS)	639
APC-1250 Smart-UPS (Multiple FS & WS)	799
APC-450 Back-UPS 286 PS/2, 386	235
APC-600 Back-UPS 286, 386 FS	285
APC-800 Back-UPS 800RT, 2-4ms, 15 mins	565
APC-750 On-Line UPS (286, 386, 486 FS)	1365
APC-1500 On-Line UPS (Multiple Servers)	2499
APC PowerChute Plus for Novell	79
APC UPS Monitoring Board for Netware	69
Power Doctor (DOS) I/F Kit for Smart-UPS	79

MDS COMPUTER INC.

CALL OUR CNE FOR FURTHER INQUIRIES
CORPORATE PO'S WELCOME
1 YEAR PARTS & LABOR WARRANTY

3210 GEARY BLVD
SAN FRANCISCO, CA 94118

AMERICAN EXPRESS VISA MasterCard DISCOVER

TEL: 415-750-0863 FAX: 415-750-0649

NEWS & VIEWS

INDUSTRY INSIGHT

Novell's Perilous Path To World Domination

Networking Leader Has All The Pieces But Might Not Be Able To Assemble The Puzzle

BY PAUL HOFFMAN

Network giant Novell has repeatedly made the news over the past few months, but may be slowly losing ground in its bid for total network dominance. Its recent announcements for future plans on major issues such as management, security, and applications development have received almost universal responses of "We'll believe it when we see it," giving third parties and Novell's competitors ample room for competition. The new version of NetWare released a few months ago has also barely gotten off the ground.

> THE NETWORKING MARKET IS RAPIDLY BECOMING THE INTERNETWORKING MARKET, WHERE SMALL NETWORKS ARE EXPECTED TO FULLY INTERCHANGE DATA WITH LARGER IN-HOUSE AND WORLDWIDE NETWORKS.

Still, Novell is in no danger of rapid decline. It controls the most popular PC networking software, NetWare, and now also owns strategic additional product lines, notably DR DOS (the best clone of MS-DOS) and master rights to UNIX, recently acquired from AT&T. NetWare and UNIX will continue to be major cash cows for many years, even if their current competitors gradually take over market share. But Novell's percentage of the networking market will surely decline if it doesn't answer users' demands for easier-to-use and less expensive solutions, making it yet another of the microcomputer industry's has-beens.

Copyright © 1993 by Paul Hoffman. All rights reserved. Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on Internet (phoffman @well) or CompuServe (71545,346). He also writes popular microcomputer books.

Four months ago, Novell released v4.0 of NetWare, emphasizing how much more advanced it was than v3.11, the version most Novell users run. However, sales of 4.0 have been very slow, according to dealers. Companies with just one server and an expert network administrator have generally upgraded, but other have held back, due to the massive amount of effort needed.

Now, it turns out that those with a wait-and-see attitude were probably smart not to jump too early. Novell just released v4.01 with two major performance improvements in important areas. Such a performance release wouldn't be such a big deal, except that you cannot run both 4.0 and 4.01 on the same network, which forces large NetWare sites to upgrade all their 4.0 servers at once.

Because network servers are so critical to most companies, they are often unwilling to make changes on a moment's notice, especially if the new software requires significant reconfiguration. Thus, many companies bought one or two copies of 4.0 in order to assess how much reconfiguration would be needed with many servers. Also, because NetWare servers usually exist on networks with other non-Novell servers, it is a good idea to extensively test v4.0 with the other servers that have often been tweaked to work with v3.11. That testing will have to be performed again with v4.01 to assure safety.

Of course, this new release will worry many LAN managers with the prospect of even more releases with bug fixes, as they try to strike a balance between having to duplicate their efforts and waiting so long as to miss the substantial improvements of the new versions. Many network consultants say they expect Novell clients to wait as long as a year before seriously attempting to upgrade to whatever the current v4 is at that time. Meanwhile, Novell has promised that all v4 updates until April 1994 will be free.

The slow acceptance of v4.0 is by no means Novell's only problem right now. Their recent announcements concerning large network issues have garnered only ho-hum reactions and have often helped their competitors, who today have the features that Novell is promising to create a year or more in the future. Novell's announcements in security, management, development, and so on are meant to reassure current clients, but people have gotten used to Novell promising the world and then delivering only a small part, later than expected.

In July, Novell submitted NetWare 4.0 to the National Computer Security Center (NCSC), the arbiters of the security of system software for the federal government. Novell trumpeted this as their first move "to provide mainframe-level security in the PC environment." However, they had to submit NetWare with a third-party product in order to even qualify, and they are attempting to get the fairly loose C2 rating. Other PC operating systems already qualify for the C2 rating, and some qualify for the stricter B-level ratings. Major Novell competitors such as Banyan submitted their products to the NCSC months before Novell. And of course, there is no guarantee that Novell will get even the C2 rating.

Novell is also hoping that developers use its forthcoming GNU development tools to create NetWare Loadable Modules (NLMs) on many hardware platforms and UNIXWare. Cygnus Support is working with Novell to create compilers that will generate NLMs for all computers from the same source code with a single recompilation, although a certain amount of hand-tuning will probably be necessary. Currently, most developers create NLMs only for one system, most often NetWare running on PCs. However, because the tools won't be ready for at least six months, developers will probably continue to create single-target NLMs and will continue to be frustrated with Novell's lack of portability.

Novell's lock on the networking market will probably loosen as its competitors convince customers of their greater agility and commitment to open standards. The networking market is rapidly becoming the internetworking market, where small networks are expected to fully interchange data with larger in-house and worldwide networks. With a wider purview, network administrators are demanding better management interfaces, better security interoperation, and more responsive vendors. Because other networking companies have done more just to get the small part of the market that they have, Novell could look worse if their future directions don't become reality quickly.

ETHERNET: MORE SPEED, POSSIBLE CONFLICTING STANDARDS

Ethernet has been the standard for networking for more than a decade, and its longevity is a testament to its initial design. At its fastest, Ethernet passes information at 10 megabits per second, an incredible rate ten years ago and still pretty good even in today's PC market.

But bandwidth-hogging applications like full-motion video and high-resolution color image processing have started to bog down the best of the Ethernet systems. People want faster Ethernet, and the commercial sector is ready to update the Ethernet standard to 100 megabits per second, a tenfold increase in a single step.

The problem is that there will probably be two different ways to go.

Earlier this year, Grand Junction Networks announced a new technology allowing current Ethernet users to get 100 megabits per second using their current wiring. That technology, originally called Fast Ethernet but now called 100Base-X to avoid confusion, uses most of the same Ethernet hardware that currently exist in most PC and minicomputer sites such as 10Base-T cables, hubs, and so on. It applied to the IEEE, the standard organization of most merit in the US, to make 100Base-X the next standard for Ethernet. Grand Junction is a new company founded last year specifically to get 100Base-X off the ground.

California Online! Technologies

TOP QUALITY PRODUCTS AT DIRECT PRICES!

HARD DRIVES **MODEMS** **MONITORS** **SOFTWARE**

WESTERN DIGITAL
212 MB (wdac2200)...........$222.00
256 MB (wdac2250)...........$251.00
340 MB (wdac2340)...........$320.00
420 MB (wdac2420)...........$495.00
XEBEC
120 MB (xe3120)...............$170.00
SAMSUNG
250 MB (whd3122A)..........$240.00
MICROPOLIS
700 MB (1624) SCSI-II.......$710.00

Orders:800-272-4090
Tech: 415-331-4090
On-Site Installations Available. Call for Quotes and Information regarding our Services.

SUPRA FAX MODEMS
(We Give You a Place to Call!)
Enjoy a Free One Month Membership to *CALIFORNIA ONLINE!*, telecom software, and WinFax Lite included. 5 Year Warranty.
Supra 14400 Internal $189.00
Supra 14400 External........$199.00
Supra for MAC 14400........$272.00
SPECIAL OFFER!
Qmodem Pro 1.5 (Our favorite Telecom Software!)...........$ 89.00
Rip Graphic Support, Fax, Mail Gateways, Integrated Offline Mail Reader, Quick Modem Setup, Free Customer Support! A Must Have!
Approved Corporate P.O's MasterCard/Visa Accepted.

SAMSUNG
14" Non-interlaced 1024 x 768 .28mm dot pitch $265.00
IDEK
15" Digital Control 1280 x 1024 .28mm dot pitch..........$505.00
17" Digital Control 1280 x 1024 .28mm dot pitch..........$930.00
20" Digital Control 1280 x 1024 .31mm dot pitch........$1975.00
20" Digital Control 1280x1024 .26mm dot pitch.........$2125.00
VIDEO CARDS
DiamondSpeedstar Pro$130.00
Number 9 GXE............$350.00
Trident 8900 Oak VGA.$ 63.00
You may also reach us at: CALONTEC@CALON.COM

ALDUS
Pagemaker for Windows 5.0....$539.00
BORLAND
Pascal Objects v7.0...................$323.00
Turbo Pascal v7.0......................$108.00
Dbase IV v1.5.............................$call
Paradox 4.0.................................$490.00
Quattro Pro 4.0...........................$ 92.00
CENTRAL POINT
v1.4 Anti-Virus..............................$ 89.00
PC Tools v8.0...............................$119.00
LOTUS
Lotus 123 v.4 Windows................$call
MICROSOFT
Excel 4.0...$call
Works v3.0.......................................$call
FoxPro for Windows.....................$296.00
WORDPERFECT
WordPerfect 6.0 Dos.....................$276.00
WordPerfect for Windows............$266.00

This is just a partial list of our product offerings. UNIX, Novell, BBS Software also available. Please call for information.

WE OFFER COMPLETE INSTALLATION, UPGRADES AND A LOT MORE!

THE LEADER IN CUSTOMER SERVICE

WE'LL MAKE SURE YOU LEAVE FEELING SATISFIED BECAUSE YOUR SATISFACTION IS OUR BIGGEST GUARANTEE.

SALES • SUPPORT

1 YEAR PARTS
LIFETIME ON LABOR

WARRANTY

SERVICE

BETA NINETIES
COMPUTER, INC.

MOTHERBOARDS

386SX-33MHz w/CPU	$88
386DX-40MHz 128K w/CPU	140
486SX-25MHz w/CPU	160
486DX-33MHz 128K w/Intel CPU	408
486DX-50MHz 128K w/Intel CPU	545
486DX2-66MHz 128K w/Intel CPU	645
VESA LB 486DX-33MHz 256K w/Intel CPU	428
VESA LB 486DX-50MHz 256K w/Intel CPU	565
VESA LB 486DX2-66MHz 256K w/Intel CPU	665

MODEMS

Zoltrix 96 Send only/24 Fax/Data Int	$35
Zoltrix 96/24 Fax/Data Int	55
Zoltrix 14.4/14.4 Fax/Data Int	160
Zoltrix 14.4/14.4 Fax/Data Ext	190
US Robotics 14.4/14.4 Fax/Data Int	188
US Robotics 14.4/14.4 Fax/Data Ext	210

PRINTERS

Panasonic KX 4410 Laser	$599
Panasonic KX 4430 Laser	685
Panasonic KX 2023 24 Pin	210

TAPE BACKUP

Colorado DJ20 250MB	$210
Colorado DJ10 120MB	160
Archive XL 250MB w/Tape	168

CD ROMS

Toshiba XM-3401B 200ms	$464
Toshiba XM-3401E 200ms	564
Texel DM-3024 265ms	390
Texel DM-5024 265ms	465
NEC 84-1 280ms	542
NEC 74-1 280ms	618
Discovery-16 390ms Int/Ext.	468/534
Discovery-8 390ms Int/Ext.	410/474
Proaudio Spectrum 16	159

Brand NEW Controllers!

Wonder Systems Controllers

Ultra-I/O .. $199
- Four serial ports (All 16550 FIFO)
- Three parallel ports (2 Bi-directional)
- Programmable addresses

FIS $99
- Supports SCSI CD ROM and IDE
- Co-Exists with other controllers
- 7 SCSI Hard Disks or CD ROMS
- Two IDE Hard Drives
- Four floppy drives
- Ideal for gradually upgrading to SCSI or controlling a high performance SCSI CD ROM

Super IFSP .. $96
- Two IDE Hard Drives
- Four floppy drives
- Three serial ports (2 16550 FIFO)
- Two parallel ports (Bi-Directional)
- One game port
- Ideal for intensive applications

IDE 8 .... $72
- Co-Exists with other controllers: SCSI, ESDI, RLL, and MFM
- Four IDE hard disks
- Excellent and easy way for end-users to upgrade to IDE without losing their old hard disk

IDE 4A $29
- Two IDE floppy drives
- Four floppy drives
- Controls two extra floppies or two tape back ups
- Ideal way to add extra floppies or a tape back up device easily and painlessly

Call For Quanity Discounts!

VESA 486DX Local Bus Complete System

486DX-33MHz	$1488
486DX-50MHz	1688
486DX2-66MHz	1728

- Intel CPU w/8K Internal Cache, Math-Coprocessor
- AMI BIOS/Clock, Calendar
- 256K of Ultra-Fast Cache
- 4MB (70ns) Memory
- 1.2MB & 1.44MB Floppy Drive
- 245MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- 2 Serial, 1 Parallel, 1 Game Port
- Genoa 32 Bit Local Bus SVGA Card w/1MB
- 14" Super Non-Interlaced VGA Monitor (1024x768) .28 Dot
- 101 Enhanced Keyboard
- Med Tower w/PS

486DX ISA Complete System

486DX-33MHz	$1328
486DX-50MHz	1458
486DX2-66MHz	1518

- Intel CPU w/8K Internal Cache, Math-Coprocessor
- AMI BIOS/Clock, Calendar
- 128K of Ultra-Fast Cache (Expandable to 256K Cache)
- 4MB (70ns) Memory
- 1.2MB & 1.44MB Floppy Drive
- 245MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 16 Bit SVGA Card w/1M
- 14" Super VGA Monitor (1024x768) .28 Dot
- 101 Enhanced Keyboard
- Mini Tower w/PS

Intel 486SX-25 Complete System

$1018

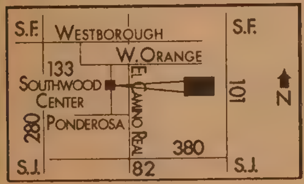
- Intel 486SX-25 MHz CPU
- 8K of Internal Cache
- 4MB (70ns) Memory
- 1.2MB & 1.44MB Floppy Drive
- 210MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- Clock/Calendar
- 2 Serial, 1 Parallel, 1 Game Port
- 16 Bit SVGA Card (1024x768) w/512K
- 14" Super VGA Monitor (1024x768) .39 Dot
- 101 Enhanced Keyboard
- Mini Tower w/PS

Cyrix 486DLC-33MHz Complete System

$958

- Cyrix 486DLC-33MHz CPU
- AMI BIOS
- 64K Ultra Fast External Cache (Expandable to 256 Cache)
- 4MB (70ns) Memory
- 1.2MB & 1.44MB Floppy Drive
- 130MB IDE Hard Drive
- 1:1 2H/2F IDE Controller
- Clock/Calendar
- 2 Serial, 1 Parallel, 1 Game Port
- 16 Bit SVGA Card (1024x768) w/512K
- 14" Super VGA Monitor (1024x768) .39 Dot
- 101 Enhanced Keyboard
- Mini Tower w/PS

Please call to confirm system prices due to the periodic change in memory prices



Monday-Friday
8:30–6:30
Saturday 10–5
Sunday 10–5
(SSF Store Only)

BETA NINETIES
COMPUTER, INC.
133 Southwood Center
South San Francisco, CA 94080
415/875-6682
Fax 415/875-6683

NOW OPEN 7 DAYS IN SSF

Monday-Friday
9:30–6:30
Saturday 10–5

MasterCard
VISA

BETA NINETIES
COMPUTER, INC.
1655 South Main Street
Milpitas, CA 95035
408/956-8800
Fax 408/956-1236
(Main St. & Montague Expressway)

CALIFORNIA
Computer
Show
& Sale

LOWEST PRICES
IN THE USA!
PC Compatibles • Hardware
• Software • Accessories

UPCOMING
SHOWS

SANTA CLARA COUNTY FAIRGROUNDS
August 28, 1993 • 344 Tully Rd., San Jose

ALAMEDA COUNTY FAIRGROUNDS
September 5, 1993 • 4501 Pleasanton Ave., Pleasanton

OAKLAND COLISEUM
September 11 & 12 1993 • I-880 and Hegenberger Rd., Oakland
2-DAY SHOW!

SANTA CLARA COUNTY FAIRGROUNDS
September 18, 1993 • 344 Tully Rd., San Jose

COW PALACE
September 25, 1993 • Corner of Geneva & Santos, San Francisco

OAKLAND COLISEUM
October 9, 1993 • I-880 & Hegenberger Rd., Oakland

RANCHO ARROYO SPORTS COMPLEX
October 10, 1993 • 9880 Jackson Rd., Sacramento
NEW SHOW!

COW PALACE
October 16 & 17 1993 • Corner of Geneva & Santos, San Francisco
2-DAY SHOW!

All Shows from
10a.m. to 4p.m.
Admission: $\$6^{00}$
Children under 12 FREE
FOR INFO. CALL
1-800-685-1400
BBS: 415-340-9370

$\$1^{00}$ OFF
Good For All
Of The Above Shows.
Limit 1 discount coupon per person.
Regular Admission $\$6^{00}$
Copies accepted.

More recently, a consortium headed by AT&T and Hewlett-Packard has proposed a different 100-mbps standard, dubbed 100Base-VG. The different standard would force many offices to rewire due to its different use of the signals in the 10Base-T wiring, but the proposal has some technical merits that would make the system more efficient. The second group has also applied to the IEEE for a blessing of the standards.

As you might guess, having more than one standard for the same thing is sure to have a very negative impact on the end-user. All 100-mbps systems on a network would have to use either one of the standards: the two definitely cannot interoperate due to major technical differences in the way that data is put on the wire. Of course, both sides claim that their method is better, and both sides point out flaws in the other's system. If both become standards, you will have to pick one before migrating from current Ethernet to the new, faster Ethernet.

> ALTHOUGH MICROSOFT'S COMPETITORS GOT NOTHING FROM THE FTC, IT IS NOT CLEAR WHAT THEY WOULD HAVE GOTTEN EVEN IF THE FTC HAD DECIDED THAT MICROSOFT HAD ACTED IN A MONOPOLISTIC FASHION.

The major advantages of Grand Junction's 100Base-X is that it's based on technology that twenty million people already use and many manufacturers are already behind it. The major advantages of 100Base-VG is that it uses the data bandwidth better by avoiding data conflicts and that it is backed by two giants, AT&T and Hewlett-Packard. To current end-users, 100Base-X will look much more attractive because it won't require them to change their current wiring at all.

The IEEE took the interesting step of having two different standards subcommittees look at the competing standards, assuring that (if they are both technically complete and useful) they will both get standards designations. In an interesting political move, 100Base-X will be evaluated by the 802.3 group, the primary keeper of the Ethernet flame. 100Base-VG will be evaluated by a new group, 802.12. In this way, both standards processes will proceed without interference from the competing group.

FTC DECLINES TO PRESS CHARGES AGAINST MICROSOFT

To no one's great surprise, the Federal Trade Commission decided not to issue a complaint against Microsoft for its conduct in the operating system market. Many of Microsoft's competitors in the applications market had hoped that the FTC would force Microsoft to separate its operating system and applications divisions so that Microsoft's programs do not have an unfair advantage when they are released. Other companies, notably Novell, had hoped that the FTC would force Microsoft to be less monopolistic in the operating system market. Instead, the FTC did nothing, even after prodding from Senator Howard Metzenbaum.

Although Microsoft's competitors got nothing from the FTC, it is not clear what they would have gotten even if the FTC had decided that Microsoft had acted in a monopolistic fashion. While the advantages that some Microsoft divisions get from inside information are valuable, the value is very short-lived in the marketplace. For example, even though Microsoft products often incorporate new Windows features before competitors do, those new features do not result in many sales. On the operating system side, even though MS-DOS has clearly benefited from the impression that it is the only PC operating system, it is not clear how many people really care that much even if they knew about MS-DOS's competitors, which are widely reviewed and discussed in the computer press.

Humorously, Microsoft's chief lawyer William Neukom was quoted as calling MS-DOS and Windows "open platforms," when in fact they are excellent examples of incredibly closed platforms that happen to be successful. Microsoft must be so taken by its own dominance of the microcomputer market that it feels justified in changing the definition of "open."

In the meantime, Microsoft's competitors will probably continue to try to get Congress or the Senate to look into their complaints, but the outcome of any hearings (if they even get scheduled) will probably be as insignificant as the FTC investigation. ■

CommandLine Computers

The difference is experience.

FREE ON-SITE SERVICE IN THE BAY AREA
PURCHASE ORDERS ACCEPTED
FLEXIBLE FINANCING OPTIONS AVAILABLE

STATE OF THE ART MACHINE AMI SUPER VOYAGER

- 486 DX2-66/DX-33 Mainboard Made in USA
- Intel P-24T Support (ZIF Socket)
- 256K SRAM Cache
- 8MB RAM Expandable to 256MB
- 1.2 MB and 1.44MB Floppy Drive - Teac
- 540MB SCSI Maxtor 8.5ms Hard Drive
- Ultrastor VESA/SCSI Controller w/32K
- Hi- Transfer 16550-2 Serial/1 Parallel/ 1 Game Port
- Diamond Viper VLB 32Bit SVGA Card
- 15" 1024x768 SVGA Monitor, 0.28 DPI, NI
- Full Tower Case w/250W Power Supply
- Hi-Res Mouse
- 101 Key Enhanced Keyboard

ONLY **$3625/$3425**
or $133/Mo/$125/Mo

EISA/VESA/ISA

Pentium Ready

- 486DX2-66/DX-33 EISA/VESA/ISA
- Intel P-24T Support (ZIF Socket)
- 256K Cache Expandable to 1MB
- 4MB RAM Expandable to 128MB
- 1.2 MB and 1.44MB Floppy Drive - Teac
- 130MB Maxtor IDE Hard Drive
- 2FDD/ 2HDD IDE Controller
- 2 Serial, 1 Parallel,& 1 Game Port
- 32 Bit VLB Video Card w/1MB
- 14" 1024x768 SVGA Monitor 0.28 DPI
- Mini Tower Case w/200W P/S
- 101 Key Enhanced Keyboard
- Hi-Res Mouse

ONLY **$1640/$1425**
or $60/Mo/$52/Mo

CALL FOR CUSTOMIZED CONFIGURATION...

IBM SERVICE + QUALITY IBM 486 SLC2-50

- VESA Local Bus
- 3 Year Limited Warranty Mainboard Manufactured by IBM
- **IBM** 486 SLC2-50 CPU Licensed by Intel
- 16K Internal Cache • 4MB RAM
- 1.2MB and .144MB Floppy Drive -Teac
- 170 MB Conner IDE Hard Drive
- IDE 2HDD/2FDD Controller
- 2 Serial, 1 Parallel, & 1 Game Port
- Orchid VLB 1280x1024 SVGA Card w/1MB
- 14" SVGA Monitor 1024x768 0.28DPI, NI
- Mini Tower Case w/ 200W PS
- 101 Key Enhanced Keyboard
- Hi-Res Mouse

ONLY **$1395**
or $51/Mo

USA MADE COMMANDLINE 486 VESA

- Intel 486 DX2-66/DX-33 VESA Local Bus
- 128K Cache
- 4MB RAM up to 32MB on Board
- 1.2MB & 1.44MB Floppy Drive - Teac
- 130MB Maxtor IDE Hard Drive
- IDE 2HDD/2FDD Controller
- 2 Serial, 1 Parallel, & 1 Game Port
- 32-Bit VLB SVGA Card w/1MB
- 14" SVGA Monitor 1024x768 0.28DPI
- Mini Tower Case w/ 200W PS
- 101 Key Enhanced Keyboard
- Hi-Res Mouse

ONLY **$1595/$1380**
or $58/Mo/$50/Mo

90 days same as cash or Three Year 100% financing available!

SAGER NOTEBOOK 700 - BIG POWER IN A SMALL PACKAGE

- NP740 (486SX-25)

$1650 (Mono)
$3225 Color(Active)

- NP743 (486DX-33)

$1850 (Mono)
$3450 Color(Active)

- NP746 (486DX2-66)

$2150 (Mono)
$3715 Color(Active)

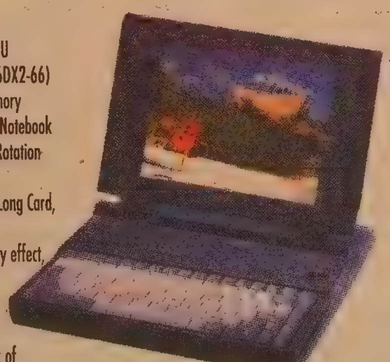
Financing available on all notebooks!

Configurations:

- 4MB RAM expandable to 16MB
- Removeable 120MB Hard Drive (80, 200MB Optional)
- 3.5" 1.44MB Floppy Drive
- 10" Mono LCD VGA 640X480 64 Grays 10" Passive Matrix Color LCD VGA 640x480, 16 Colors 10" Active Matrix Color LCD VGA 640X480, 256 Color
- Simultaneous CRT & LCD Operation
- Large Built-In 16mm Trackball
- PCMCIA Type I & II Slot
- Ports for 1S, 1P, Ext, Keyboard/ Keypad,VGA monitor & AT/Bus for expansion box
- 83 Key Keyboard
- Nickel Metal-Hydride battery
- Microsoft DOS 6.0
- Carrying Bag & AC/ Adapter
- Weight 5.5lbs, with Battery
- 11.4"W X 8.6" D x 1.65"H
- Sager's Umbrella Protection Policy

Features:

- Module Pack Area: Trackball, Fax/Modem, SCSI, PS/2 Mouse+COM 2
- PCMCIA Slot
- Intel 486 Upgradeable CPU (486SX>486DX-33>486DX2-66)
- Easy to Upgradeable Memory (RAM) No need to Open Notebook
- 180° LCD Display Angle Rotation
- 2-Hour Quick Charge
- Expansion Box: 2 16-Bit Long Card, 13.5" HDD Bay
- NiMH Battery: No memory effect, Longer Battery Life
- External Battery Pack: Doubles Running Hours Screws Into Bottom Back of Notebook Raising & Angling Keyboard for Easy Typing



SAGER NOTEBOOK 800 - LOCAL BUS

- NP840 (486SX-25)

$1750 (Mono)
$3375 Color(Active)

- NP843 (486DX-33)

$1950 (Mono)
$3575 Color(Active)

- NP846 (486DX2-66)

$2250 (Mono)
$3850 Color(Active)

Configurations:

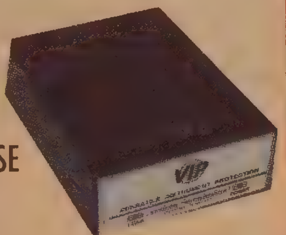
- Local Bus IDE & Local Bus VGA Display
- 4MB RAM expandable to 20MB
- Super Fast 120MB , Hard Drive (80, 200, 340MB Optional)
- 3.5" 1.44MB Floppy Drive
- 10" Mono LCD VGA 640X480 , 64Grays
- 10" Passive Matrix Color LCD VGA 640X480, 256 Colors
- Simultaneous CRT & LCD Operation
- Large Built-In 16mm Trackball
- 2 PCMCIA Slots
- Ports for 1S, 1P, Ext, Keyboard,VGA monitor & AT/Bus for Docking Station
- 86- Key Keyboard
- Microsoft DOS 6.0
- Carrying Bag & AC/ Adapter
- Weight 6.15lbs(with Battery)
- 11"W x 8.6"D x 1.77"H
- Sager's Umbrella Protection Policy

Features:

- Intel 486 Upgradeable CPU (486SX>486DX-33>486DX2-66)
- Upgradeable LCD Display: Mono > Passive (STN) > Active (TFT)
- 180° LCD Display Angle Rotation
- 2 PCMCIA Slots
- Flash ROM for BIOS Upgrade through software
- Intelligent Power Management (Automatically detects whether CPU is busy or not: When idle, CPU clock is automatically cut to low.)
- 2-Hour Quick Charge.

PATENTED NEW INNOVATION IN COMPUTER PROTECTION

- Prolongs the Life of your System
- Help prevent Hard Disk crashes
- Unlimited Surge Protection
- Brown-out and Overvoltage Protection
- Auto delay reboot after power interruption
- Electronic circuit Breaker
- EMI/RFI filters
- Decorative desk-top touch control
- 120 Watts output



$49 WITH SYSTEM PURCHASE
(Actual $119 Value)

MiTAC 486SLC 33MHz
- 120 MB Notebook
- 1.44MB FDD, 4MB RAM
- S/P PORTS, MS DOS 5.0
- VGA Graphic, 5.5lbs

Only **$1375**

LIMITED SPECIAL

IBM PS VALUEPOINT
486 DX-33/ DX2-66

Call for the Best Price!

CommandLine Computers Inc.

OPEN : M-F: 9-6, SAT: 10-4
921 Kifer RD, Sunnyvale, CA 94086
Bus:(408)735-7940
Fax:(408)735-7944 (Corner of Commercial and Kifer)

- 1 Year Parts Warranty, Lifetime Toll Free Technical Support, 30-day Money Back Guarantee Corp. 1000, University and Government PO's Are Welcomed!! No Surcharge on Visa or Mastercard • Prices Subject to Change Without Notice • Not Resposible for Typographical Errors • All Opened Returns Are Subject To 15% Restocking Fee
- 14 Process Days for Purchase Refund

ASK ABOUT OUR NEW "WARRANTY+" EXTENDED WARRANTY! THIS WARRANTY IS OFFERED ON ALL JDR MICRODEVICES PRE-ASSEMBLED COMPUTER SYSTEMS!!!!!

September Special of the Month

Cooling Fan/Heat Sink for any Intel 486SX, DX or DX/2 CPU - includes in-line power adaptor

$19.95

Serving you since 1979

JDR Microdevices®

VESA Local-Bus Systems

486DX/33	w/ 4Mb RAM & 261Mb IDE	**$1899**
486DX2/66	w/ 4Mb RAM & 261Mb IDE	**$2099**

These JDR Computer Systems include: Desktop Case with 200W Power Supply, Teac 1.2Mb & 1.44Mb FDDs, VL-Bus IDE/FDD Contr. w/1Par-2Ser-1Game, VL-Bus Windows Accelerator w/ 1Mb RAM, 14" Non-Interlaced SVGA Monitor, 101-Key Keyboard, Serial Mouse and MS-DOS 6.0 & Windows 3.1!!!

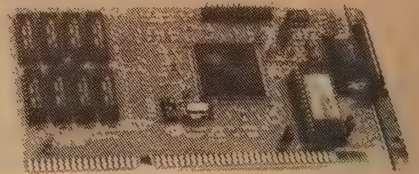
NEW

Chinon Dual Speed CD-ROM Drive

- *Int. SCSI-2 w/ 280ms access time*
- *Multi-session PhotoCD & XA comp.*
- *300Kb/sec xfer rate / 256Kb cache*

$399.95

Diamond Computer Systems



Speedstar Pro w/1Mb	$139.95
Stealth 24 w/1Mb	$179.95
Stealth Pro w/1Mb	$269.95
Stealth Pro VLB w/1Mb	$269.95
Viper VLB w/2Mb	$449.95

Seagate IDE Drives

• One-Year Warranty •

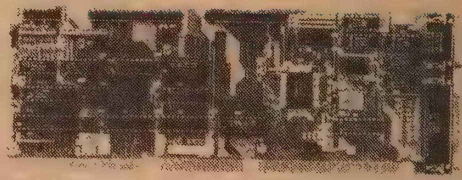
ST-351A	42Mb/28ms	$114.95
ST-3096A	89Mb/14ms	$179.95
ST-3120A	106Mb/15ms	$189.95
ST-3144A	130Mb/16ms	$199.95
ST-3243A	214Mb/16ms	$249.95
ST-3290A	261Mb/16ms	$269.95
ST-3390A	341Mb/12ms	$449.95
ST-3550A	452Mb/12ms	$499.95

NEW PRODUCTS from JDR Microdevices

TrippLite Surge Protectors from	$39.95
TrippLite Standby UPS's from	$109.95
Logitech Cordless Mouse II	$119.95
US Robotics 14.4K Fax/Modem	$219.95
Ansel 16-Bit Ethernet w/ 10BaseT	$69.95
Ansel 8-port Concentrator	$279.95
Par. Port driven Peripherals	$CALL
Epson ActionLaser1500 w/ 1MB	$689.95
Epson Stylus800 InkJet Printer	$339.95
Quantum 127MB 17ms SCSI-2	$219.95
Quantum 170MB 17ms SCSI-2	$229.95
Quantum 245MB 16ms Fast SCSI-2	$329.95
Quantum 525MB 10ms Fast SCSI-2	$899.95
Quantum 1.05GB 10ms Fast SCSI-2	$1199.95

MODULAR CIRCUIT TECHNOLOGY

VL-Bus Products



- *VL-Bus IDE & Floppy Controller w/ 1 parallel & 2 serials; also supports 2.88Mb FDDs - $79.95*
- *VL-Bus SCSI-2 Controller supports up to 7 SCSI-2/SCSI devices and 2 floppies - $279.95*
- *VL-Bus SCSI-2 and 10BaseT Network Interface - $479.95*

Bargain Hunters' Specials

Covered By Our Full Warranty!!!

12MHz 80286 Board	*with AMI BIOS*	$29.95
16MHz 80286 Board	*with AMI BIOS*	$39.95
25MHz 386SX Board	*with AMI BIOS*	$89.95
33MHz 386SX Board	*with AMI BIOS*	$99.95
33MHz 386DX Board	*with 64Kb Cache*	$149.95
40MHz 386DX Board	*with 64Kb Cache*	$189.95
25MHz i486SX Board	*with 64Kb Cache*	$219.95
50MHz i486DX Board	*with 64Kb Cache*	$549.95
50MHz i486DX EISA Board	*w/ 256Kb Cache*	$699.95
Teac FD-505 1.2/1.44Mb FDD	*Combo Drive*	$99.95
5.25" 1.2Mb Floppy Drive	*regularly $69.95*	$39.95
3.5" 1.44Mb Floppy Drive	*includes mtg. kit*	$39.95
Teac 3.5" 2.88Mb Floppy Drive	*Extra-Density*	$69.95
Conner CP3000 42Mb 28ms IDE	*3.5" Drive*	$99.95
Conner CP3204F 204Mb 16ms IDE	*"Fast"*	$199.95
14" 1024x768 .28mm Monitor	*"Interlaced"*	$219.95
14" 1024x768 .28mm Monitor	*"Non-Interld"*	$249.95
14" 640x480 .42mm Monitor	*std. VGA*	$199.95
Epson LX-810 Printer	*9-pin Dot Matrix*	$99.95
Epson LQ-570+ Printer	*24-pin Dot Matrix*	$169.95
Epson LQ-1070 Printer	*24-pin, 132-column*	$249.95
Citizen 200GX Printer	*9-pin Dot Matrix*	$99.95
JDR 3-button Serial Mouse	*with drivers*	$4.95
ACECAD 12"x12" Digitizer	*w/ 4-button puck*	$99.95
2-Drive Floppy Controller	*"High-Density"*	$19.95
4-Drive Floppy Controller	*"High-Density"*	$19.95
Intelligent 2.88Mb FDC	*supports QIC80 format*	$19.95
8-bit IDE Controller	*with on-board BIOS*	$19.95
16-bit IDE/Floppy Controller	*with cables*	$9.95
Logitech Dexxa Mouse w/ Windows 3.0		$49.95

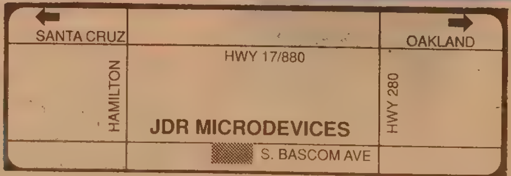
All Bargain Hunters' items are limited to stock on hand and are covered by our standard warranty; 30-day money-back guarantee and one-year warranty. All items listed above are Catalog Returns that have been tested and are in good working order. There are many Bargain Hunters' items not listed and stock in this area is constantly being updated. Check out the latest bargain specials today!

Serving you since 1979

JDR Microdevices®

CATALOG OUTLET

1238 South Bascom Avenue
San Jose, CA 95128 408-280-7144 Fax: 408-947-8234



Prices good through 9/18/93 at this location only.

Outlet Hours:
Monday-Friday - 9:00am-7:00pm
Saturday - 9:00am-5:00pm
Sunday - 12:00pm-4:00pm

MasterCard VISA DISCOVER

RECORD HIGH AS BOND PRICES TUMBLE

The Dow Jones Industrial Average reached record levels last month as bond prices plunged amid concerns that the Clinton administration's deficit-reduction package may hit some snags. Investors bid the Dow up to an all-time high of 3555.40 on Wednesday, July 21, before it closed out the monthly trading session at 3525.22.

Computer stocks did not follow in the footsteps of the Dow's run-up, as the Microtimes Stock Index lost 194.10 points, or 4.55%, to close at 4072.42. In the accompanying table, fourteen stocks reached new highs last month and six companies hit new lows. Declining issues outnumbered advancing issues by a 19 to 13 count.

Leading the losers on a dollar basis was Apple Computer. Apple announced a third-quarter loss of $188.3 million, or $1.63 a share, compared with earnings of $131.6 million, or $1.07 a share, in the same quarter last year. The company also took a $320.9 million restructuring charge in an attempt to put its business back on track. Apple has recently initiated price-cutting programs to spur sales and to gain market share. Shareholders remained skeptic, however, as Apple nosedived $15.25, or 36.53%, to a closing price of $26.50.

Compaq Computer lost ground as analyst Stephen Smith of Paine Webber Inc. lowered his 1993 and 1994 earnings estimates for the company. Mr. Smith's concern about slowing demand for personal computers led him to reduce his 1993 and 1994 earnings forecasts to $4.50 a share from $5. Shares of Compaq Computer lost $3.75, or 7.14%, before coming to rest at $48.75.

Shareholders of Northern Telecom were far from fortunate last month, as the value of their holdings cascaded 41.3% to $21.50. The reason for the sharp drop last month: the company warned investors that it will report a second-quarter loss and that 1993 profits will be "significantly" lower than 1992's results. The surprise loss will be the first such loss for Northern Telecom in almost five years.

AT&T, one of the few gainers last month, reported an 8.6% increase in profits for the second quarter, but revenues for long-distance services stayed flat due to competition and a sluggish economy. The company also announced that it expects to reorganize its upper management ranks in order to assist its global expansion and move into new businesses, such as multimedia products. In the quarter, AT&T earned $1.04 billion, or 77 cents a share, an increase from $961 million, or 72 cents a share, a year earlier. AT&T's stock price rose $1.63 for the month to close at $63.88. ■

EXCH	COMPANY		TICKER SYMBOL	CLOSING PRICE 06/24/93	CLOSING PRICE 07/22/93	NET CHANGE IN MONTH	PERCENT CHANGE IN MONTH	P/E RATIO	ANNUAL DIVIDEND RATE	ANNUAL DIVIDEND YIELD	ANNUAL HIGH	ANNUAL LOW
	SOFTWARE											
OTC	Adobe	(H)	ADBE	65.25	53.00	−12.25	−18.77	27	0.40	0.75	74.00	25.25
OTC	Aldus		ALDC	16.25	15.25	−1.00	−6.15	85	0.00	0.00	20.75	10.25
OTC	Autodesk	(H)	ACAD	54.00	44.25	−9.75	−18.06	22	0.48	1.08	56.75	38.50
OTC	Borland		BORL	22.38	19.50	−2.88	−12.85	–	0.00	0.00	49.00	17.50
OTC	Informix	(H)	IFMX	22.75	23.00	0.25	1.10	27	0.00	0.00	27.25	8.75
OTC	Lotus	(H)	LOTS	33.00	36.88	3.88	11.74	22	0.00	0.00	37.00	14.75
OTC	Microsoft	(H)	MSFT	88.50	77.63	−10.88	−12.29	26	0.00	0.00	98.00	68.00
OTC	Novell		NOVL	25.75	23.75	−2.00	−7.77	26	0.00	0.00	35.25	22.50
OTC	Oracle	(H)	ORCL	44.25	49.38	5.13	11.58	71	0.00	0.00	51.75	15.75
OTC	Software Publishing	(L)	SPCO	7.25	6.63	−0.63	−8.62	–	0.00	0.00	14.50	5.88
OTC	Symantec		SYMC	14.13	11.25	−2.88	−20.35	–	0.00	0.00	22.25	5.88
	HARDWARE											
OTC	Apple	(L)	AAPL	[illegible]	26.50	−15.25	−36.53	6	0.48	1.81	65.25	25.38
OTC	AST Research		ASTA	14.75	[illegible]	1.00	6.78	10	0.00	0.00	24.25	11.25
NYS	Commodore	(L)	CBU	2.63	3.50	[illegible]	33.33	–	0.00	0.00	10.25	2.50
NYS	Compaq	(H)	CPQ	52.50	48.75	−3.75	[illegible]	15	0.00	0.00	61.75	27.75
NYS	Digital Equipment		DEC	40.63	37.50	−3.13	−7.69		0.00	0.00	49.25	30.38
OTC	Dell	(L)	DELL	20.38	17.13	−3.25	−15.95	7	[illegible]	0.00	49.88	13.50
NYS	Hewlett-Packard	(H)	HWP	80.75	75.25	−5.50	−6.81	22	1.00	[illegible]	[illegible]	50.25
NYS	IBM	(L)	IBM	48.75	43.38	−5.38	−11.03	–	2.16	4.98	95.50	41.63
NYS	Silicon Graphics	(H)	SGI	35.25	36.88	1.63	4.61	–	0.00	0.00	39.25	[illegible]
OTC	Sun Microsystems		SUNW	28.63	27.25	−1.38	−4.80	24	0.00	0.00	41.00	24.00
NYS	Xerox		XRX	79.00	72.38	−6.63	−8.39	–	3.00	4.15	88.88	71.50
NYS	Tandy	(H)	TAN	29.25	28.75	−0.50	−1.71	26	0.60	2.09	32.38	22.25
	CPU'S											
NYS	Advanced Micro Devices		AMD	21.25	24.38	3.13	14.71	11	0.00	0.00	32.88	8.38
OTC	Intel		INTC	53.75	50.00	−3.75	−6.98	15	0.20	0.40	60.63	27.13
NYS	LSI Logic	(H)	LSI	14.13	15.75	1.63	11.50	–	0.00	0.00	17.00	4.88
NYS	Motorola	(H)	MOT	83.63	86.88	3.25	3.89	35	0.44	0.51	90.63	41.00
	COMMUNICATIONS											
NYS	AT&T	(H)	T	62.25	63.88	1.63	2.61	22	1.32	2.07	65.00	40.63
NYS	BellSouth Corp.		BLS	55.00	55.88	0.88	1.59	17	2.76	4.94	57.50	46.75
OTC	MCI		MCIC	28.31	28.75	0.44	1.55	12	0.10	0.35	29.75	16.06
NYS	Northern Telecom	(L)	NT	36.63	21.50	−15.13	−41.30	10	0.36	1.67	46.00	21.50
NYS	Pacific Telesis	(H)	PAC	47.75	49.00	1.25	2.62	23	2.16	4.41	49.75	39.50

KEY: NYS = NEW YORK ASE = AMERICAN OTC = OVER THE COUNTER
(H) = NEW HIGH REACHED IN PERIOD (L) = NEW LOW REACHED IN PERIOD

MARKET DIARY:

ADVANCES	13
DECLINES	19
UNCHANGED	0
NEW HIGHS	14
NEW LOWS	6

MOST ACTIVE ISSUES:

LARGEST DOLLAR GAINER	Oracle	$ 5.13
LARGEST DOLLAR LOSER	Apple	$ −15.25
LARGEST PERCENTAGE GAINER	Commodore	33.33 %
LARGEST PERCENTAGE LOSER	Northern Telecom	−41.30 %

	CLOSE 06/24/93	CLOSE 07/22/93	NET CHANGE IN MONTH	PERCENT CHANGE IN MONTH
MICROTIMES STOCK INDEX	4266.52	4072.42	−194.10	−4.55
DOW JONES INDUSTRIAL AVERAGE	3490.61	3525.22	34.61	0.99
STANDARD & POOR'S 500 STOCK INDE	443.19	444.51	1.32	0.30
N.Y.S.E. COMPOSITE	246.60	246.26	−0.34	−0.14
NASDAQ COMPOSITE	688.72	695.52	6.80	0.99

CLOSING QUOTES FOR GRAPH:

DATE	MICRO TIMES	DOW JONES
01/11/93	4020.09	3262.75
02/05/93	4083.40	3442.14
03/04/93	4127.80	3398.91
04/01/93	4196.89	3439.44
04/29/93	4074.63	3425.12
05/27/93	4554.50	3554.83
06/24/93	4266.52	3490.61
07/22/93	4072.42	3525.22

Copyright Nordby International, Inc. Louisville, CO

This information is based on sources believed to be reliable, and while extensive efforts are made to assure its accuracy, no guarantees can be made. Nordby International and Microtimes assume no liability for any inaccuracies. For phone numbers, addresses or any additional financial information on any of the above companies call Nordby International at (303) 666–5903.

Free Online Legislation & Statutes: The End Game

BY JIM WARREN

REALIZABLE FANTASIES

These columns concern the near future—futures that we can create without technological breakthroughs.

The last several columns have concerned computer enhancements to Californians' power to participate in their own governance. They have detailed a "Great Equalizer"—far more powerful than a Colt .44—that can help counterbalance the power of well-funded lobbyists and special-interest political insiders.

This fantasy is approaching realization—or death. We can see the light at the end of the tunnel; we just can't tell whether it's light from an oncoming train, or from sunshine that will rekindle the flames of freedom from the ashes of cynicism.

REAL-WORLD POLITICS: TO FREEDOM OR THE GRAVE

[For new readers: Assembly Bill 1624 (Bowen, D-Torrance) would mandate free, statewide, online public access to legislative records, state statutes, and the baroque state Constitution—at essentially no cost to the state, by using a low-cost file server and the public computer networks that blanket the state.]

One way or another, the California State Legislature will act by September 10th, when they close up shop and return to their districts. (*Joy!* Then we can get back to techno-fantasies—if AB1624 passes.)

Copyright © 1993 by Jim Warren, 345 Swett Rd., Woodside, CA 94062; email/jwarren@well.sf.ca.us. Permission herewith granted to copy-in-full for any nonprofit use.

First, the Senate: By the end of August, the California State Senate will vote on AB1624. If Senate Rules Committee Chair David Roberti (D-Van Nuys area) supports the bill, it will pass Rules, and almost certainly pass Senate Appropriations since the Legislative Data Center can use its current equipment and Internet connections to implement it—and then will pass the full Senate.

> One or two unelected senior bureaucrats and some former legislative aides who are selling legislative information for *big* bucks have illustrated a *potent* ability to guide (control?) Burton on this matter.

If Senator Roberti defers to some of the powerful bureaucrats and political insiders who oppose AB1624, it'll die in Senate Rules. Yes, he's that powerful.

Then, the Assembly: If it passes the Senate, it returns to the State Assembly for "concurrence in amendments"; i.e., they can only accept it as amended (improved!) in the Senate, or kill it. If Assembly Rules Committee Chair John Burton (D-San Francisco) or Assembly Speaker Willie Brown (D-San Francisco) favor it, it will pass the Assembly and the Legislature. The Republican leadership and a number of Democrats are official coauthors of the bill, but they don't really make any difference if Burton or Brown oppose it. Yes, they are that powerful.

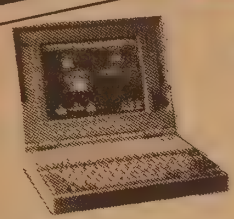
And so far, one or two unelected senior bureaucrats and some former legislative aides who are selling legislative information for *big* bucks have illustrated a *potent* ability to guide (control?) Burton on this matter.

And finally, the Governor: If the Legislature passes AB1624, then Gov. Pete Wilson (R-San Diego) will sign it into law, or kill it. Note: Wilson's Deputy Chief of Staff is Executive VP of State Net, and his appointee to the Fair Political Practices Committee is Senior VP of State Net—one of the two largest peddlers of online public legislative data (e.g., charging $4200 for 2880 minutes—that's the way they phrased it—under a 24-month contract).

Ongoing public input to these four individuals (copied to the bill's author) will decide the fate of this bill. It's the *only* thing

COMPUTER WERX
ONE STEP AHEAD

COMPAQ



PORTABLES

- CONTURA 386SL/25, 120/4
- CONTURA 386SL/25, 84/4
- CONTURA 386SL/25C, 120/4
- CONTURA 386SL/25C, 84/4
- LTE LITE 386SL/25, 64/4 LCD VGA
- LTE LITE 386SL/25C, 120/4
- LTE LITE 486SL/25C, 120/4
- PORTABLE 486C/66, 210/4 COLOR
- PORTABLE 486/66, 210/4 B&W
- PORTABLE 486/66,525/4 B&W

CALL FOR LATEST PRICING AND AVAILABILITY

DESKTOPS

- DP 486/33I, 240/4
- DP 486/33M, 120/4
- DP 486/33M, 340/4
- DP 486/33M, 4 MOD 1
- DP 486DX2/50M, 120/8
- DP 486DX2/50M, 340/8
- DP 486DX2/50M, 8 MEG
- DP 486DX2/66I, 4/MOD. 1
- DP 486DX2P/66, 8/MOD. 1
- DP 486DX2/66M, 210/8

QUALITY SERVICE

- We specialize in most of the leading brands of computer and printer repair. Apple, AST, Compaq, Apple monitors and all other clones.
- FREE Estimates on any PC, Monitor or Printer Repairs.
- We do Upgrades in PC's and Mac, Printers.
- FREE Consultation On Novell Netware Installation and Config.

HARD DRIVES

Conner 120 MB SCSI 15ms	$CALL	Maxtor 213 MB IDE 15ms	CALL
Conner 120 MB IDE 19ms	CALL	Maxtor 213 MB SCSI 15ms	CALL
Conner 200 MB SCSI 12ms	CALL	Maxtor 340 MB IDE 13ms	CALL
Conner 212 MB IDE 12ms	CALL	Maxtor 340 MB SCSI 13ms	CALL
Conner 40 MB IDE 27ms	CALL	Maxtor 535 MB IDE 12ms	CALL
Conner 80 MB IDE 19ms	CALL	WD 340 IDE 12ms	330
Conner 540 MB IDE 12ms	CALL	WD 125 MB IDE 15ms	CALL
Maxtor 80 MB IDE 19ms	CALL	WD 212 MB IDE 14ms	230
Maxtor 120 MB IDE 15ms	CALL	WD 85 MB IDE 17ms	CALL
Maxtor 120 MB SCSI 15ms	CALL		

MONITORS

14" SVGA 1024x768 .28	$CALL	Mag MX15F/15"	CALL
14" SVGA 1024x768 NI .28	CALL	Mag MX17F/17"	CALL
14" SVGA 1024x768 .39	CALL	Mono VGA 640x480	CALL
15" Flat 1280x1024 NI .28	CALL	Nanao F5501/17"	CALL
17" Flat 1280x1024 NI .26	CALL	Sony 1730S	CALL
Hitachi CM1584MU/15"	CALL	Sony 2036/20"	CALL
Hitachi CM1785MU/17"	CALL	VGA 640x480 .51	CALL
Hitachi CM2085M+/20"	CALL	Sony 1430	CALL
Hitachi CM2187/21"	CALL	NEC 4FGE	CALL
Idek MF8317/17"	CALL	NEC 5FGE	CALL

AST® RESEARCH INC.

AST, AST logo registered, PowerExec, EasyPort and SmartPoint registered AST Research, Inc.

CALL FOR PRICING

AST, AST logo and Premium registered and Cupid-32, Cupid-32 trademarks AST Research, Inc.

AST POWER EXEC

+MONO, COLOR OR COLOR PLUS
+386SL OR 486SL/25
+4 MB OF RAM
+2 PCMCIA, TYPE II SLOTS
+FLASH BIOS
+UP TO 6.45 HOURS OF BATTERY LIFE
+6.9 LBS
+MS DOS 5.0
+AVAILABLE WITH 60/80/120/160 & 200 MB HARD DRIVES

POWER EXEC

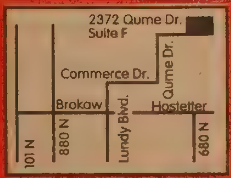
AST PREMMIA

*4/66d, 486DX2-66, 8MB, 170HD
*4/66d, 486DX2-66, 8MB, 340HD
*4/50d, 486DX2-50, 8MB, 170HD
*4/50d, 486DX2-50, 8MB, 340HD
*4/33d, 486DX-33, 8MB, 170HD
*4/33d, 486DX-33, 8MB, 340HD
*4/33s, 486SX-33, 8MB, 170HD
*4/33s, 486SX-33, 8MB, 340HD

AST BRAVO

+4/25S, 486SX/25, 4/120 MB HD & Monitor
+4/33S, 486SX/33, 4/120 MB HD & Monitor
+4/33S, 486SX/33, 8/210 MB HD
+4/33, 486DX/33, 4/120 MB HD & Monitor
+4/33, 486DX/33, 8/210 MB HD
+4/33, 486DX2/66, 4/120 MB HD & Monitor
+4/66d, 486DX2/66, 4/120 MB HD & Monitor
+4/66d, 486DX2/66, 8/210 MB HD & Monitor

AST®
Authorized Systems Reseller



2372 QUME DRIVE, SUITE F
SAN JOSE, CA 95131
TEL: (408) 954-0490 Fax: (408) 954-0496

C-WERX

CORPORATE PO'S WELCOME

日·英ワープロ&通信ソフト

Japanese-English Word Processing PLUS
Communication software for the IBM-PC/AT

Truly bilingual software for someone like you! **KCOM 2**

With *KCOM 2*, you can create Japanese and English documents on your IBM-PC/AT or compatible, and send and receive Japanese text on any BBS or information Service. And much more.....

Japanese & English Word Processing

- You can find the Japanese translation for English words in the built-in English-Japanese dictionary.
- You can find and correct spelling errors with the Spell Checker.
- High quality 48-dot fonts are used for printed output.

Facsimile Transmission

You can create a document and send it through a Fax Modem.

KCOM 2 /DOS $250 *KCOM 2 for Windows* $350

ENGLISH 日本語

高性能機械翻訳システム

High-End Machine Translation Software

"PC-Transer" $1950 ~ *Please call us for detail.*

KUREO TECHNOLOGY LTD. *If you have questions or want to place an order, please feel free to call us.*
Suite 300-3700 Gilmore Way Burnaby, B.C. V5G 4M1 Canada
Tel: (604)433-7715 Fax: (604)433-3393

SAVE UP TO 40%

AT OUR CLEARANCE CENTER

This Month's Special

* SVGA Color Monitor: 0.28 mm, 1024 x 768	ONLY $199
* IDE Hard Drive: 107 MB, 16ms	ONLY $130
* Fax / Modem: 14,400/14,000 for Windows	$134
* IDE/2H/2F/2S/1P/1G	$10
* Desk AT Case w/ 220 PS	$46
* SVGA Card 1MB / 512KB	$42/$27
* 3/486 Mother Board w/ 128K	$105
* 386DX-25 Mother Board w/cpu	$100
* Floppy Drive 1.2/1.44	$43/$37
* Simm or DRAM	CALL
* 101 Key Enhanced Keyboard	$16
* Mouse & Track Ball	$29
* Mouse	$9

CD-ROM Drives & CD Software Available at LOW prices

SNAP COMPUTER

(510) 796-1883

35640 Fremont Blvd., Fremont • Fax: (510) 796-7552

All items above come with warranty
Prices Subject to Change Without Notice

that's kept AB1624 alive against powerful insider opposition.

WIDE DIVERSITY OF SUPPORTERS

Contrary to some legislators' first assumptions, AB1624 is not merely for "a few elite computer nerds." Consider *some* of the fifty-plus organizations supporting AB1624, at press time:

California Common Cause, CalPIRG (California Public Interest Research Group), League of Women Voters of California, Palo Alto Working Group on Civil Liberties, L.A. Women's Legislative Coalition.

> John Burton, David Roberti and Pete Wilson can and may disregard widespread support for AB1624, if they hear little or nothing from additional organizations and voters in their districts—while adroit opponents continue to whisper sweet nothings to them via their insiders' access.

Palos Verdes Library District, Tiburon Fire Protection Dist., Sierra Club, Fund for Animals, California Newspaper Publishers Assn., Housing California.

California Council for the Blind, Westside Center for

Computerland of Serramonte
WAREHOUSE OUTLET

WE BEAT OR MATCH MOST PRICES!

LOWEST IN THE BAY AREA !

CENTRIS 660AV
QUADRA 840AV
NOW IN STOCK!
CALL NOW FOR LOW PRICE !

APPLE

POWERBOOK 145B 4/40	$1,272
POWERBOOK 145B 4/80	$1,495
POWERBOOK 160 4/40	$1,432
POWERBOOK 160 4/80	$1,754
POWERBOOK 160 4/120	$2,074
POWERBOOK 165C 4/80	$2,033*
POWERBOOK 165C 4/120	$2,354*
POWERBOOK 165C,4/120 W/EXPRSS MDM	$2,977*
POWERBOOK 180 4/80	$2,918*
POWERBOOK 180 4/120	$3,239*
POWERBOOK 180, 4/120 W/EXPRESS MDM	$3,738*
POWERBOOK 180C 4/80, 33MHZ	$3,312
POWERBOOK 180C 4/160	$3,633
POWERBK 180C 4/160, W/EXPR MODEM	$3,786
POWERBOOK DUO 210 4/80,	$1235*
POWERBOOK DUO 230 4/80	$1,531
POWERBOOK DUO 230 4/120	$1,851
POWRBK DUO 230 4/120, W/EXPR MODM	$2,065

APPLE DESKTOP COMPUTERS

MAC COLOR CLASSIC 4/80	$1,043*
MAC LC III 4/80	$1,197
MAC LC III 4/160	$1,335
MAC IIVX 4/80,68030	$1,254*
MAC IIVX 5/80 CD-ROM W/1MB VRAM	$1,476*
MAC IIVX 4/230	$1,567*
MAC CENTRIS 610 4/80	$1,254*
MAC CENTRIS 610 4/80, W/ETH	$1,347*
MAC CENTRIS 610 8/230	$1,812*
MAC CENTRIS 610 8/230,W/CD-ROM	$1,984*
MAC CENTRIS 650 8/80,W/ETHERNET	$1,810
MAC CENTRIS 650 8/230	$2,107
MAC CENTRIS 650 8/230,W/CD-ROM	$2,428
MAC CENTRIS 650 8/500	$2,657
MAC QUADRA 800 8/230	$3,023
MAC QUADRA 800 8/500	$3,600
MAC QUADRA 800 8/500, CD ROM	$3,848

APPLE PERIPHERALS

16" RGB DISPLAY	$1,174
APPLECD 300 EXTERNAL CD-ROM DRIVE	$382

APPLE PRINTERS

STYLEWRITER II PRINTER	$302
PERSONAL LASERWRITER NTR	CALL
LASERWRITER SELECT 300 W/TONER	$729
LASERWRITER SELECT 310 W/TONER	$961
LASERWRITER PRO 630 (8MB) W/TONER	$2,252
LASERWRITER PRO 600 (8MB) W/TONER	$1,769*

RADIUS

FULL PAGE MONO MONITOR	$436
PIVOT MONO MONITOR	$555
TWO PAGE DISPLAY MONO 19 INCH	$634
TWO PAGE DISPLAY MONO 21 INCH	$790
TWO PAGE DISPLAY 21E,LOW EMS.	$1,027

*These prices reflect manufacturer's rebate

COMPAQ LTE LITE 4/33C
Compaq's Most Advanced Notebook
IN STOCK! LIMITED SUPPLY!

COMPAQ

CONTURA 3/25,M84/W+	$1,475
CONTURA 3/25,MOD 120/W+	$1,621
CONTURA 3/25C,MOD 84/W,COLOR	$2,015
CONTURA 4/25, MOD 120/W	$1,933
CONTURA 4/25, MOD 209/W	$2,219
CONTURA 4/25C, MOD 120/W	$2,617
CONTURA 4/25C,MOD 209/W	$2,903
CONTURA 4/25CX,MOD120/W	$3,218
CONTURA 4/25CXMOD 209/W	$3,503
LTE LITE/25E,M84/W	$2,855
LTE LITE/25E,M120/W	$2,648
LTE LITE/25C,M84/W	$3,023
LTE LITE/25C,M120/W	$3,255
LTE LITE 4/25, M120/W	$2,569
LTE LITE 4/25, M209/W	$2,855
LTE LITE 4/25E, M120/W	$3,157
LTE LITE 4/25E, M209/W	$3,443
LITE LITE 4/25C,M120/W	$3,899
LTE LITE 4/25C,M209/W	CALL
LTE LITE 4/33C,MOD120/W	CALL
LTE LITE 4/33C,M209/W	CALL
PORTABLE 486/66C,M210/W	$6,663
PORTABLE 486/66C,M525/W	$7,615
PORTABLE 486/66,M210/W	$4,759
PORTABLE 486/66,M525/W	$5,711

DESKTOP COMPUTERS

PROLINEA 3/25S M120/W+	$1,007
PROLINEA 4/33,120/W+	$1,570
PROLINEA 4/33,MOD 240/W+	$1,761
PROLINEA 4/33,M340/W+	$1,904
PROLINEA 4/50,MOD120/W+	$1,808
PROLINEA 4/50,240/W+	$1,998
PROLINEA 4/50,M340/W+	$2,141
PROLINEA 4/66,M120/W	$1,903
PROLINEA 4/66,M240/W+	$2,188
PROLINEA 4/66,M340/W+	$2,332
DESKPRO 4/33I, M120/W, 8 RAM,120 HD	CALL
DESKPRO 4/33I, M240/W, 8 RAM, 240 HD	CALL
DESKPRO 4/33I,M340/W, 8 RAM, 340 HD	CALL
DESKPRO 4/66I, M120/W, 8 RAM, 120 HD	CALL
DESKPRO 4/66I,M240/W, 8 RAM, 240 HD	CALL
DESKPRO 4/66I, M340W, 8RAM, 340 HD	CALL
DP 486/33M, M120/W	$2,427
DESKPRO 4/33M,M240/W	$2,617
DESKPRO 4/33M, M340/W	$3,026
DESKPRO 50M, MODEL 120	$2,569
DESKPRO 50M, MODEL 340	$3,265
DP 486/50M,M120/W	$2,789
DESKPRO 50M, M240/W	$2,979
DP 486/50M, M340/W,8MB	$3,388
DESKPRO 66/M, M240/W	$3,208
DESKPRO 60/M,MOD1,60MHZ,PENTIUM	$4,378
DESKPRO M60,M240/W,PENTIUM	$4,759
DESKPRO/M60,MOD510,PENTIUM	$5,235
DESKPRO/M60,MOD510/W,PENTIUM	$6,663
PROSIGNIA 486/33,MOD550	CALL
PROSIGNIA 486DX2/66,M340W	CALL
PROSIGNIA 486DX2/66,M550	CALL

HEWLETT-PACKARD

OMNIBOOK 300, 2 MB RAM, 10 MB FLASH	CALL
OMNIBOOK 300, 2MB RAM, 40MB HD	CALL
VECTRA 486/33M MOD 170, 4MB, 170MB	$1,710
VECTRA 486/33M MOD 240, 4MB, 240MB	$1,818
VECTRA 486/33MI MOD 170, 4MB, 170MB	$1,773
SCANJET IIP, W/PC-AT INTERFACE	$689
SCANJET IIP, W/MCA INTERFACE	$689
SCANJET IIP, W/MAC INTERFACE	$689
SCANJET IIC COLOR W/PC-AT INTERFACE	$1,254
SCANJET IIC COLOR W/MCA INTERFACE	$1,254
SCANJET IIC COLOR W/MAC INTERFACE	$1,254

HP PRINTERS

DESKWRITER INKJET F/MAC 2PPML	$289
DESKJET 500 INKJET 2PPM .	$289
DESKJET 550C COLOR 2-PEN INKJET PRN	$569
DESKWRITER 550C COLOR 2-PEN INKJET	$569
DESKJET 1200C PRINTER	$1,332
DESKJET 1200C/PS POSTSCRIPT PRINTER	$1,881
DESKWRITER C COLOR INKJET F/MAC	$384
DESKJET 500C COLOR INKJET F/PC	$384
PAINTJET XL300 W/POSTSCRIPT LEVEL2	$3,132
PAINTJET XL300 COLOR PRINTER	$2,191
DESKJET PORTABLE INKJET PRINTER	$376
LASERJET 4 8PPM 600DPI 2MB	$1,349
LASERJET 4M 8PPM 600DPI 6MB	$1,881
LASERJET 4L PRINTER 4PPM	$659
LASERJET 4ML, POSTSCRIPT	$999
LASERJET 4SI, 17PPM,600DPI,2MB	Low Price
LASERJET 4SI-MX, POSTSCRIPT II,10MB	Low Price

EPSON

AP-3250,24-PIN	$176
FX-1170 PRINTER, 9 PIN	$357
FX-870 PRINTER,9 PIN, 80 COL.	$274
LQ-570+ ULTRA LETTER QUALITY	$245
LQ-870,24-PIN,80COL	$455
LQ-1170,24-PIN,136COL	$623
LQ-1070,24-PIN,136COL	$361
LQ-2550,24-PIN,136COL	$917
ACTION LASER1000,512K,6PPM,300DPI,	$627
ACTION LASER 1500, 6PPM	$666

OKIDATA

ML 380, 24-PIN, 80 COL	$211
ML590, 24-PIN, 80 COL	$423
ML520, 9 PIN, 80 COL	$363
ML 320, 9-PIN, 80 COL	$302
ML 321, 9-PIN, 132 COL	$423
ML591, 24-PIN, 132 COL	$575
ML521, 9 PIN, 132 COL	$484
OL830+,8PPM,300DPI,POSTSCRIPT	$1,089
OL400e ,4PPM,512K, 300DPI	$511
OL810 PAGE PTR, 8PPM	$907

NEC

NEC 3FGE MONITOR	$599
NEC 4FGE MONITOR	$716
NEC 5FGE MONITOR	$1,289
NEC 6FG MONITOR	$2,369
NEC SILENTWRITER MODEL 95	$896

ComputerLand
Business to Business, Person to Person.

Phone: (415) 615-9020
Fax: (415) 615-0844

ComputerLand of Serramonte
WAREHOUSE OUTLET
415 South Spruce Avenue
South San Francisco, CA 94080

Hours: 8:30-5:30 Closed Sat. & Sun.
Corporate Inquiries Welcome

Expires September 20, 1993

Previous ad prices void.
Prices Subject to Change without Notice

Must bring this ad in to receive these prices.

No Demos Available
Not responsible for typographical errors

Independent Living, World Institute on Disabilities, American Foundation for the Blind, HIV/AIDS Information BBS.

American Association of University Women; California Congress of Parents, Teachers, and Students; California College Educators of New Californians, University of California.

County of Santa Cruz, County of Del Norte—but not the California State Association of Counties, which receives $25,000–$30,000 in "commissions" from State Net sales to its member counties.

City of Los Altos, City of Berkeley—but not the California League of Cities, which receives $25,000–$30,000 in "commissions" from State Net sales to its member cities.

California Rural Legal Assistance Foundation, Western Center on Law and Poverty, Council of California County Law Libraries, Northern California Assn. of Law Libraries, American Association of Law Libraries, etc.

Oh yes, and also technoid groups such as EFF (Electronic Frontier Foundation), CPSR (Computer Professionals for Social Responsibility), Computer Software Industry Association, Apple Computer, Autodesk, Sunnyside Computing, etc.

John Burton, David Roberti, and Pete Wilson *can and may* disregard this support, if they hear little or nothing from additional organizations and voters in their districts—while adroit opponents continue to whisper sweet nothings to them via their insiders' access.

CITIZENS' POWER: USE IT OR LOSE IT

We—by our actions or lethargy—will decide whether California will *lead* in modern public access to legislation—or be just another eventual follower of some more innovative state.

Letters and faxes are needed—from individuals, companies, and organizations—to [1] bill author Hon. Debra Bowen, State Capitol, Room 3126, Sacramento, CA 95814; fax/916-327-2201; [2] Roberti, Room 205; [3] Burton, Room 3152; [4] Brown, Room 219; [5] Gov. Pete Wilson; *and* to your own [6] Assembly Member, [7] State Senator. *Now!*

THE HORSE'S MOUTH

Jim Warren often speaks on computing futures (and history), and about technology and government policies. Among other things, he will be the keynote speaker at the BBSCON '93 convention for bulletin board system operators in Colorado Springs, August 25–29 (303/693-5253). ■

Warren founded InfoWorld, *Wireless Digital, Initiative, Inc. and one of the nation's largest public microcomputer conventions. He was founding host of PBS's* Computer Chronicles, *founding editor of* Dr. Dobb's Journal, *and has chaired various trade and professionals' organizations. He holds graduate degrees in computing (Stanford), medical information science (UC Medical Center), and mathematics & statistics. He has been a computer professional since 1968, and was a mathematics teacher and professor for ten years before that.*

He organized and chaired the landmark First Conference on Computers, Freedom & Privacy (1991) and was one of the first to receive the Electronic Frontier Foundation Pioneer Award (1992). He is a member of the board of directors of Autodesk, Inc.

United Solutions, inc.
Manufacturing, VGA, MULTIMEDIA, MOTHERBOARDS.

"FOR PRICE, PERFORMANCE, SERVICE AND SUPPORT, UNITED SOLUTIONS...IS UNQUESTIONABLY-THE BEST BUY" PC -PC Magazine

New products, new prices,

The amazing U.S.I/W32 board 109.00
The new VL-Bus board *"Lightning-Fast"*
Based on the new generation TSENG LABS product ET4000/W32 32 BIT VL-BUS/16.7 MILLION COLORS & UP TO 1280X1024 Res. WINDOWS ACCELERATOR VGA
- *TOP DOS SCREEN ACCESS*
- *AMAZING WINDOWS SPEED & PERFORMANCE*
- *Provides the wide bandwidth to handle today & tomorrows MULTIMEDIA applications.*

U.S.I/Complete W32 139.00
same as U.S.I./W32 plus IDE/IO V-L BUS *All in one board.*

U.S.I/MEGACOLOR "Best Buy" 89.00
2MB, CIRRUS LOGIC cl-gd5426 chipset. V-L BUS, 16.7 MILLION COLORS & UP TO 1280X1024 Res. W/2MB $129.00

U.S.I/S3gui 107.00
2MB VGA, Based on S3 86c801 chip. Built in VESA standards, up to 1280X1024 Res, 16.7 Million photorealistic colors. W/2MB $149.00

U.S.I/HICOLOR ET4000 33K colors 16 bit 69.00
U.S.I/1024WA 16 bit Window Accelerator 39.00
U.S.I/Image1024 16 bit SVGA w/Oak chip 35.00
U.S.I/Image800 16 bit SVGA w/AVGA 25.00
U.S.I/Laser H-P IIP & III Memory Board 14.00
U.S.I/IDE/IO VL-BUS 36.00

U.SI/486 EISA VL-BUS CALL*
Combining the speed of 32-bit EISA architecture with graphics performance of VL-bus, it is one of the most advanced designs currently available. Takes all 486 SX & DX & OverDrive™ CPU on a 238 pin "ZIF" socket, up to 128MB of DRAM and a flexible cache of up to 256KB.

U.S.I/486 VL-BUS CALL*
Takes All 486 SX & DX CPU, "ZIF" socket, flexible cache of up to 256KB, supports 2X32 bit VL-Bus slots, 6X16 bit ISA slots. Single AMI BIOS

U.S.I/386/486 CALL*
Takes All 386 & 486 microprocessors from 20 to 66 MHZ & up to 256 cache.

U.S.I/OptiViewVideo Board 209.00
This BOARD allows any PC-AT compatible PC to display, scale, and capture full-motion video in a windows environment, transforming it into a low-cost multimedia system.
FEATURES: TV Tuner-displays up to 122 channels. Full-motion video preview . True-color frame capture / User-programmable frame size, resolution, and capture speed. Captured images easily imported into many desktop publishing packages. Audio control can be captured directly to headphone or speakers. Full-Screen Video Hot Key, transforms your VGA monitor into a full-screen TV.

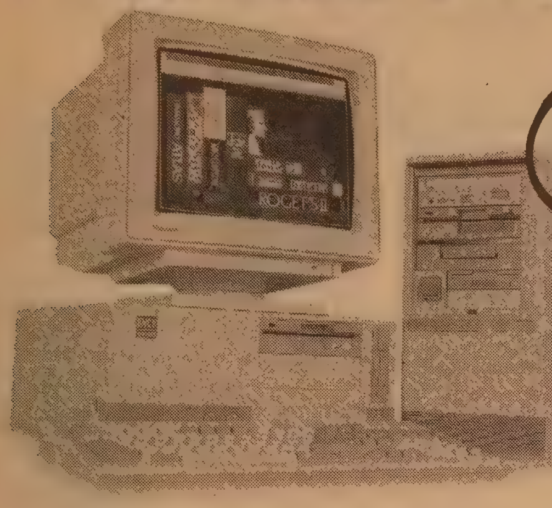
U.S.I/SoundMedia 109.00
SM Soundboard with top notch surface mount design, combines four cards in one. A stereo sound card, an interface card for joysticks, a MIDI card, and a CDROM interface card. FEATURES: A DAC for stereo digitizer voice output. An ADC for sampling in stereo. 16-bit digital audio playback. 12-bit digital audio recording. Up to 96db of dynamic range. MIDI interface. SONY CDU-31A CD-ROM or STANDARD SCSI interface.

SONY/CD ROM
Model SL CDU- 31A 209.00

Volume purchasing call for price:

UNITED SOLUTIONS INC. *Sales: 1(800)653-0001*
6382 Arizona Circle *Tel: (310)645-3232*
Los Angeles, CA 90045 *Fax: (310)645-0044*
National Distributor: D&H *Sales: 1(800)877-1200*

Buy Something Better With Unbeatable 2 Year Parts 5 Year Labor Warranty



intel inside

MICROSOFT® WINDOWS™ COMPATIBLE

1. 2 year parts 5 year labor warranty
2. 30 day money back guarantee
3. All systems VESA compliant
4. All systems with ZIF socket
5. All systems PentiumTechnology ready
6. All systems with 2 VLB slots
7. All systems with 72 Hrs burn in
8. Knowledgeable sales engineers
9. Unlimited free tech support
10. Worldwide satisfied customers

SPECIAL

- Zif scoket Pentium Technology ready VLB
- 128K cache
- 2 VESA Local Bus slots
- 1.2 or 1.44
- 1DE controller ZFD/2HD
- 2SIP 1G
- 101 enhanced keyboard
- Clock & Calendar
- 0MB expandable to 32 MB
- Mini tower with 230W

INTEL 486DX-33 $525
INTEL 486DX-50 $655
INTEL 486DX2-66 $725

ADI CTX TEAC® Maxtor Genoa SYSTEMS CORPORATION ORCHID ASUS® WESTERN DIGITAL

TRUE COLOR

- Pentium Technology ready VLB
- 4 MB 70 ns RAM up to 32MB
- 128 KB Cache
- 212 MB IDE Hard Drive
- 1.44 & 1.2 MB FLoppy Drives
- Genoa 32 bit True Color VESA Local Bus accelerator with 1 MB
- CTX 14" 1024NI SVGA with .28 DP
- 101 Enhanced Keyboard
- 2 serial, 1 parallel, 1 game ports
- Mini Tower or Desktop case
- High Resolution Mouse

INTEL 486DX-33 **$1329**
INTEL 486DX-50 **$1469**
INTEL 486DX2-66 **$1539**

2% Discount with Cash

GUI STATION

- Pentium Technology ready VLB
- 8 MB 70 ns RAM up to 32MB
- 256 KB Cache
- 255 MB IDE Hard Drive
- 1.44 & 1.2 MB FLoppy Drives
- 15"ADI Digital Flat NI SVGA with .28
- Genoa 32 bit True Color VESA Local Bus accelerator with 1 MB
- Maxi-Switch/Focus 101 Keyboard
- 2 serial, 1 parallel, 1 game ports
- Mid Tower case with 2 fans
- High Resolution Mouse

INTEL 486DX-33 **$1699**
INTEL 486DX-50 **$1829**
INTEL 486DX2-66 **$1909**

2% Discount with Cash

GUI PRO

- Pentium Technology ready VLB
- 8 MB 70 ns RAM up to 32MB
- 256 KB Cache
- 340 MB IDE Hard Drive
- 1.44 & 1.2 MB FLoppy Drives
- 15"ADI Digital Flat NI SVGA with .28
- Orchid 32 bit True Color VESA Local Bus accelerator with 1 MB
- Maxi-Switch/Focus 101 Keyboard
- 2 serial, 1 parallel, 1 game ports
- Mid Tower case with 2 fans
- High Resolution Mouse
- 32bit IDE

INTEL 486DX-33 **$1849**
INTEL 486DX-50 **$1979**
INTEL 486DX2-66 **$2059**

2% Discount with Cash

Video

14"CTX 10245VGA .28NI	$275
15"ADI 4G Digital .28NI	$445
17"CTX Digital .28NI	$780
Genoa 8500 VLB	$105
Orchid Fahrenheit VLB	$160
Orchid P9000 VLB	$349

MB+CPU

486DX-33-128K VLB	$400
486DX-50-128K VLB	$530
486DX2-66-128K VLB	$610
486DX EISA VLB	$Call
UltraStor 24F EISA SCSI	$380

Hard Drive

Western Digital 212 IDE	$200
Western Digital 255 IDE	$230
Western Digital 340 IDE	$295
Maxtor 212 IDE	$200
Maxtor 245 IDE	$230
Maxtor 345 IDE	$295

MISC

TEAC 1.2/1.44	$50/40
96/24 Fax/Modem	$50
14.4/14.4 Fax/Modem	$160
Mitsumi CD ROM 350 ms.	$179
Trockball	$10

ENCY Multimedia Package : $359

- Mitsumi Photo CD ROM 350 ms
- Sound Blaster Pro Deluxe Stereo Card & Bundled Softwares
- 3 Best Seller CD Titles:
  1. Software Toolworks MPC Encyclopedia
  2. MIcrosoft Bookshelf
  3. Microsoft Works

$200 for Mitsumi CD ROM & Microsoft Works with system purchase

MPC™ Multimedia PC SB SOUND BLASTER AUDIO CREATIVE

- Come see the demo

* 2% discount with cash
* Freight, software, printer & special order items are not refundable.
* One year warranty for disk drives.
* Price and availability are subject to change without notice.
* 15% restocking fee within 30 day, no refund after 30 day
* The Intel Inside Logo is a trademark of Intel Corporation.
* All products referenced herein are trademarks of their respective companies.
* 2 year parts warranty for complete system only

ENCY systems

(510) 226-1848
Fax: 1-510-226-0560
46743 Fremont Blvd., Fremont, CA 94538
Business Hours (PST): Mon-Fri : 8:30 to 5:30 Saturday: 10:00 to 4:00

Notebook convenience.

Macintosh performance.

Apple® Macintosh® PowerBook™ 145B

The Apple® PowerBook™ 145B computer is designed for those who want solid Macintosh performance and flexibility in a convenient, take-it-wherever-you-work notebook computer.

4 MB/80 HD

Not a rebate product

$1329

Authorized Reseller

On-the-spot **rebates**

On-target **solutions**

Instant, Big Savings on Apple® Products.

See stores for details.

On the Spot Rebate. On Target Solutions.*

*Rebates start June 14, ends September 30, 1993. See stores for details.

*©1993 Apple, the Apple logo, LaserWriter Macintosh and StyleWriter are registered trademarks of Apple Computer, Inc. Macintosh Centris, Macintosh Duo, Macintosh Quadra, System 7, PowerBook Duo, and PowerBook are trademarks of Apple Computer, Inc. Classic is a registered trademark licensed to Apple Computer, Inc. * Price after Mfg. rebate. While Supplies Last.*

Save $50

The ideal entry level personal computer

Apple® Macintosh® Classic® II 4/80

- All-in-one design

Limited Supply

$949*

Save $50

The complete color package.

Apple® Macintosh® Color Classic®

- 16-MHz 68030 microprocessor
- 4 MB of RAM, expandable to 10 MB
- 80 MB hard drive

$1069*

Save $300

Built-in CD-ROM drive.

Apple® Macintosh® IIvx

- 33-MHz 68030 microprocessor
- 33-MHz 68882 math coprocessor
- 32K cache
- 5 MB of RAM, expandable to 68 MB
- 80 MB hard drive

Keyboard & Monitor Extra

$1499*

Laser-quality printing at an affordable price.

Apple® StyleWriter® II Printer

- 360 dots-per-inch resolution for laser-quality printing
- Gray scale printing for sharp graphics
- 39 scalable fonts for printing in any size and a wide range of styles

$329

Not a rebate product

New!

The ideal companion to a PowerBook computer.

Apple® Portable StyleWriter® printer

The Portable StyleWriter weighs only 4.5 pounds, and works with any PowerBook, Apple PowerBook Duo™, or Macintosh® computer, using a rechargeable battery or a standard power source. It can print in a horizontal or vertical position, so you can use it in even the most confined spaces, whether you need to print on letterhead, envelopes, labels, or transparencies.

$429

Not a rebate product

Save $150

Exceptional processing power at an affordable price.

Apple® Macintosh Centris™ 610

- 20-MHz 68040 microprocessor
- 4 MB of RAM, expand to 68 MB
- 80 MB hard drive

M1345LL/A

$1249*

Keyboard & Monitor Extra

Limited Supply

$1999*

- 8 MB RAM, expand to 68 MB
- 230 MB HD
- CD ROM

M1398LL/A

Save $300

Save $100

The best of both worlds.

Apple® Macintosh® PowerBook Duo™ 210

- 25-MHz 68030 microprocessor
- 4 MB of RAM, expandable to 24 MB
- 80 MB hard drive

$1299*

The easy way to make your PowerBook Duo a desktop computer.

Apple® Macintosh Duo™ Dock

$899*

Save $150

Save $200

Exceptional value in a compact laser printer.

Apple® Personal LaserWriter® NTR

- 300-dots-per-inch resolution
- 3 MB of RAM, expandable to 4 MB
- 64 scalable fonts

While supplies last

HP Deskwriter Printer

Don't settle for less than perfect, professional-looking documents. The Deskwriter prints at a smooth 300 dpi, it's affordable, and it's compatible with AppleTalk® for use with your Apple® Macintosh® personal computer.

New! Low Prices!

$299.

HEWLETT PACKARD

HP DeskJet Portable Printer

Now you can take famous DeskJet 300 dpi laser-quality output anywhere. Weighs just 4.4 lbs; prints 3 pages per minute (up to 100 pages on one charge). Pictured w/optional cut-sheet feeder.

$75 REBATE

EXTENDED

Ends 10/31/93

** See store for details. Must purchase a Hewlett-Packard Portable Accessory to be eligible.*

HP DeskJet 500 Printer

Get laser-sharp printing from all your DOS and Windows applications at a dot-matrix price. This instant classic inkjet printer from HP works with TrueType or font-scaling software to give you perfect type at any size.

New! Low Prices!

$299.

HP DeskWriter C Printer

Affordable color in laser-quality printing.

The HP DeskWriter C adds color capacity to an already famous laser quality black output. It's compatible with Apple® Macintosh® personal computers — and your budget.

- Laser-quality output in black or in color
- 300 dpi resolution

New! Low Prices!

$399.

HP LaserJet 4L Printer

A first class printer for the price of coach.

Complete, simple to operate, and affordable, the newest HP LaserJet printer is also the lowest priced HP LaserJet printer...ever!

- 300 dpi resolution
- 26 built-in scalable typefaces

$669.

HP DeskJet 500C Printer

Laser-quality color at an affordable price.

Print in beautiful, laser-sharp 300 dpi color on plain paper and transparencies— for less than the cost of a b&w laser printer. Windows-compatible for use with TrueType™ fonts and ATM; 3-year limited warranty.

- Laser-quality printing
- 300 dpi resolution

New! Low Prices!

$399.

Integrated black and color printing that's simple, convenient, and fast.

HP DeskWriter 550C Printer

Perfect for home and small business use where color is important, this reliable printer for use with your Apple® Macintosh® personal computer.

- 300 dpi resolution
- Integrated black and color printing

New! Low Prices!

$599.

HP LaserJet 4 ML Printer

It fits budgets as well as it fits desktops

• Lightning fast Intel 80960 18.5 MHz RISC processor • 4 Mb standard memory • EconoMode cuts your toner costs up to 50%

$1069.

HP DeskJet 550C Printer

Not just a printer...Help with your printing.

Dual ink cartridge technology delivers laser-quality output in both color and true black from this solid printer for the PC. 3-year mfr's warranty; does envelope and legal-sized paper, too.

- 300 dpi resolution
- Six typefaces and 84 selectable fonts for DOS

New! Low Prices!

$599.

WHOLE EARTH
ELECTRONICS

SAN JOSE: 3530 Stevens Creek Blvd. (between Winchester & San Tomas)
(408) 554-8300 M-F 10am—9pm /Sat-Sun 10am—6pm

3-1/2" HD Flopply Disks

$7.99

After manufacturers rebate

op quality high density diskettes with $1.00 manufacturers rebate.

MITAC
486 SLC-33 MHz 130 MB HD Notebook

4MB RAM upgradable to 32 MB, Cyrix 486 CPU, socket for math co-processor, 10" LCD 64 shades of gray screen. #40286-130

$1799

TOSHIBA

The best i486™ notebook for the money

T1900 Satellite™ Notebook

- Fast i486™ SXA microprocessor running at 20MHz
- 4 MB RAM expandable to 20 MB
- 120 MB hard drive 17 Milisecond access time
- High contrast 9.5" mono VGA display

New!

$1849

The New IBM® PS1®

Everything you need comes in one box.

Monitor Included
intel inside

486SX 25 MHz (upgradable to DX2) 85 MB hard drive, 2 MB RAM, 14" VGA color monitor, local bus video, modem, mouse, popular software already loaded.

$999

Backed by IBM Service and Support. IBM

Consultant 2133G46

DESKTOP SYSTEMS

$649

386SX-33 MHz
105 MB HD

- 2 MB RAM • 2 floppy drives • SVGA card w/512k RAM • 101 keyboard • Mouse • MS DOS 6.0 • Windows 3.1 • Microsoft Productivity Pack • 1 yr warranty

#CCWSCA0027 Model 30

Monitor extra

$729

486DLC-33 MHz
120 MB HD

- 4 MB RAM upgradable to 32 MB • 1k RAM cache • SVGA card w/512k • 1.44 floppy drive • 101 keyboard • Mouse • MS DOS 6.0 • Windows 3.1 • Microsoft Productivity Pack • 1 yr warranty

Monitor extra.

CCWSCA0228 Model 100

Monitor

VESA LOCAL BUS MINI-TOWER SYSTEM

$1079

486SX-33 MHz
210 MB HD

- 2 local bus Vesa slots • 4 MB RAM upgradable to 32 MB • 0k RAM cache upgradable to 256k • 512k VLB-SVGA card • 2 floppy drives • 101 keyboard • Mouse • MS DOS 6.0 • Windows 3.1 • Microsoft Productivity Pack • 1 yr warranty Monitor extra

CCWSCA0226 Model 300

Monitor extra

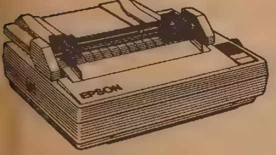
VESA LOCAL BUS • MID-TOWER SYSTEM

$1199	**$1379**	**$1599**
486DX-33 MHz **120 MB HD** Model 400 *CCWSCA0225*	**486DX2-50 MHz** **170 MB HD** Model 500 *CCWSCA0223*	**486DX2-66 MHz** **245 MB HD** Model 600 *CCWSCA0221*

• 2 local bus Vesa slots • 4 MB RAM upgradable to 32 MB • 128k RAM cache upgradable to 256k • 1 MB VLB-SVGA card • 2 floppy drives • 101 keyboard • Mouse • MS DOS 6.0 • Windows 3.1 • Microsoft Productivity Pack • 1 yr warranty

Monitor extra.

EPSON LX-810

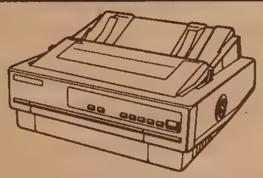


This 9-pin printer with SmartPark™ paper handling offers 200 CPS Super draft, 30 CPS NLQ, and high resolution graphics for excellent printing results.

159.

EPSON LQ-570+

NOW EVEN FASTER!



This 24 pin printer utilizes scalable fonts, enhanced graphics, and advanced paper handling to offer better performance.

249.

Canon BJ-10ex

Canon

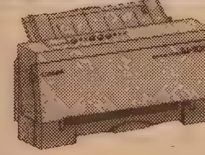
The Canon BJ10ex gives you high-quality document, anywhere, anytime. This portable printer has 360 dpi resolution and battery operation. Optional battery and sheet feed.

$269.

Canon BJ-200

Canon

NEW LOW PRICE!

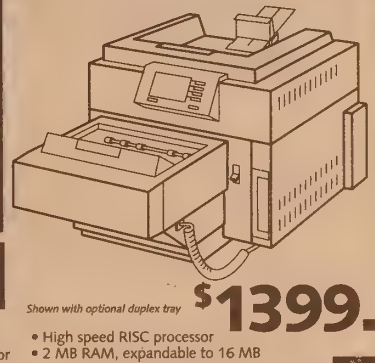


Canon's Bubble Jet printer incorporates new print technology that produces laser-quality printing at a truly affordable price.

$299

The New Lexmark IBM LaserPrinter 4039 10R

True 600 x 600 DPI

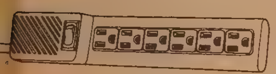


Shown with optional duplex tray

$1399.

- PCL 5 and PostScript® Compatible
- SmartSwitch printer language sensor
- PictureGrade enhancement
- Up to 3 active input ports
- 10 pages per minute
- High speed RISC processor
- 2 MB RAM, expandable to 16 MB
- 200 sheet paper capacity
- Accelerated driver for fast Windows™ printing
- Includes 10,000 page print cartridge

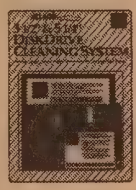
System Connection Surge Protector



Organize you power needs while protecting your system from electrical surges.

$6.95

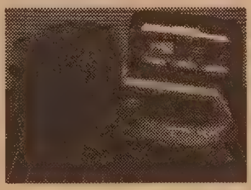
Allsop Dual Drive Cleaner



$7.95

TARGUS Notebook Case

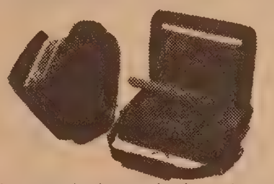
A TRADITION OF EXCELLENCE



Designed for notebook-style computers, fully padded computer section, reinforced handle & detachable strap.

$39

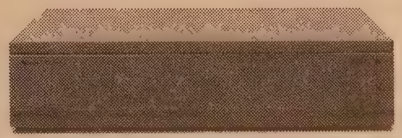
Targus Leather Notebook Case



The Targus leather notebook case is specifically designed to carry a notebook style computer, related accessories and business documents. Constructed of full-grain cowhide, it includes an adjustable, padded divider which separates the computer from it's accessories, a detachable shoulder strap and a zippered document holder. #CLN1

$99.

KENSINGTON.

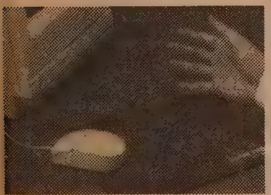


MasterPiece® Compact Power Control Center

Organize and protect your personal computer with our MasterPiece Compact power control center. This power control center offers convenient master switching with individual control of separate outlets, surge suppression, noise filtering and anti-static protection—all in one compact, economical unit.

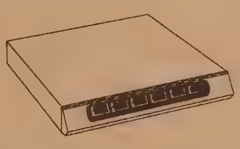
$69.

ICON SPORTS Hyper Pad



$12.95 each

System Connection Power Center



Protect your investment.

$14.95

APPOINT MousePen Pro Mac

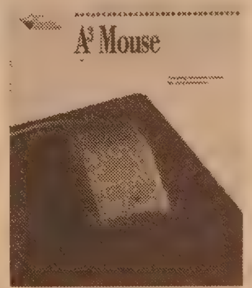
The MousePen Pro for Mac operates on nearly any angle. It's natural design and superior control is ideally suited for software applications requiring advanced graphics, desktop publishing and multimedia.

$79

MOUSE SYSTEMS

The A³ Mouse

- Three buttons provide three times the functionality of other mice
- Advanced M5 optical technology
- A/UX, MacX, Mac OS and X-Windows compatible • 300 cpi base resolution • Lifetime Warranty



$89

® IBM is a registered trademark of International Business Machines Corp. and is used under license. ®PS/I is a registered trademark of International Business Machines Corp., Inc. The Intel Inside logo is a trademark of the Intel Corporation.

WHOLE EARTH ELECTRONICS

SAN JOSE: 3530 Stevens Creek Blvd. (between Winchester & San Tomas)

(408) 554-8300 M-F 10am—9pm /Sat-Sun 10am—6pm

New Pen Computers

Dauphin, Newton, Tandy Zoomer

BY MITSU HADEISHI

PENS AND PALMTOPS

RESOURCES:

Apple Newton and related products
Apple Computer, Inc.
2055 Mariani Ave.
Cupertino, CA 95014
(408)996-1010.

Chaplet EgoLAN and other PCMCIA cards
Chaplet Peripherals
252 N. Wolfe Rd.
Sunnyvale, CA 94086
(408)732-7950.

Dauphin DTR-1
Dauphin Technology, Inc.
377 E. Butterfield Rd.
Ste. 900
Lombard, IL 60148
(800)782-7922

Copyright © 1993 by Mitsu Hadeishi. All rights reserved.

With the impending release of the Apple Newton, interest in pen-based computing has been on the rise. Smaller, lighter, and more powerful pen-based and palmtop machines continue to appear.

I decided to take a look at another pen-based machine, a smaller one than the notebook-sized units common in the industry today, to see the current state of the art in machines running Microsoft's Windows for Pens and other competing pen-based operating systems.

The Dauphin DTR-1

The Dauphin DTR-1 (DTR stands for "Desktop Replacement") is a subnotebook-sized pen-based computer with a detachable keyboard. Like the GRiD Convertible, it is thus capable of both keyboard and pen-based use. The operating system is Windows for Pens, which is essentially Microsoft Windows 3.1 with software enhancements that enable it to recognize pen input.

Weighing in at 2.5lbs. and sporting dimensions of 9" x 5.5" x 1.25" (without the detachable keyboard), this machine is much smaller than previous pen-based machines, even light enough to hold in your hand (though you wouldn't want to do this for very long). At a list price of $2495, it comes with 4MB of RAM (expandable to 6MB); a 40MB hard drive; a 6" diagonal, backlit, passive matrix, VGA-compatible LCD screen; and parallel, serial, and external hard/floppy drive ports (IDE-compatible drives can be installed externally using a proprietary connector from Dauphin).

In addition, the unit has an 800 x 600 external super VGA video output, allowing you to use the machine as a kind of miniature desktop unit. The detachable keyboard uses a PS/2-style keyboard port, and you can use either the provided detachable keyboard or attach your own full-sized keyboard with a PS/2 keyboard port adapter. Apparently an inexpensive adapter is available that allows "normal" PC keyboards to use a PS/2 port. Optional accessories include a fax modem and Ethernet adapter, both of which can be installed internally.

This pen-based machine can be used like a small computer. I tried typing on the supplied keyboard; it is a bit cramped, but quite serviceable. To use the DTR-1 like a subnotebook computer, you can strap the display unit into its carrying case, which can be propped open with the keyboard resting just below the display. The AC adapter that comes with the machine is very small and lightweight; Dauphin told me it was designed that way to enhance portability.

This machine is a lot smaller and lighter than the GRiD Convertible, which I reviewed several months ago; its operation is more or less identical. Like the Convertible, the Dauphin has an optional keyboard (in this case, it is a separate unit, unlike the Convertible, which uses a clever flip-up design to expose the keyboard), and also, like the Convertible, it runs Windows for Pens and other MS-DOS-based pen operating systems.

After using the DTR-1 for a while, however, I'd have to say that this machine is still a different category from the proposed Newton technology, despite its smaller size. It's still quite heavy and rather bulky compared to a palmtop unit; after all, it is a full-blown 486SLC-based machine with a 40MB hard disk. As the name implies, DTR (Desktop Replacement), it is much like a desktop machine.

Remarkable though the slim packaging is, this is still not really the kind of lightweight palmtop unit I believe will be necessary for pen-based computing to really take off in the general marketplace. This machine is intended for point-of-purchase sales use and forms applications, not for general use. Though the DTR-1 has an excellent niche as both a subnotebook computer and a pen-based machine for vertical market applications and horizontal sales force uses, at $2495 and 2.5lbs. it is nevertheless not in the handheld mass-market category yet.

Since the main advantage of pens is that it allows you to have full use of the screen of a small, portable machine without taking up space with a bulky keyboard, I believe small size is eventually going to be essential for mass-market acceptance of pen computing. As a lightweight pen-based machine, however, the Dauphin could well be a very good alternative to the bulky pen-based machines that have been in use until this time for sales and other similar applications.

The difficulty I had with Microsoft Windows for Pens, however, points out the need for a different, custom-made operating system for palmtop use. Not only does Windows for Pens (like PenPoint) take up a lot of disk space, but the handwriting recognition is rather poor at best. Other, more lightweight operating systems such as PenDOS (which reputedly has a much better handwriting recognition rate) and the new pen-based GEOS operating system (used in the new Tandy Zoomer—see below), may well be the way pen computing goes in the ultra-portable computing domain which is where I believe it will find its greatest acceptance.

Newton News

Apple has announced collaborations with a number of communications companies with which it hopes to set up a variety of information services accessible via the

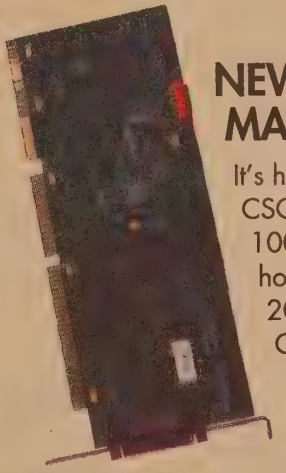
SIZZLING HOT SUMMER SPECIALS

CD-ROM DRIVE EXPLOSION!

You asked for them - we found them at bargain prices. CSC now has a complete selection of CD-ROM drives in stock. These pictured photo CD compatible NEC CDR 73 and 83 CD-ROMs start at an amazingly low $189 for the internal model. You need a CD drive to take advantage of the all latest software. We have multimedia CD-ROMs starting at $159! Multi-session, MPC, multi-spin, all the latest and fastest CD-ROM technology can be yours! Call today for a complete fax list of all the makes and models available!

Faster Than a Speeding Hard Drive! Up to ONE GIG, 35ms Tahiti-1 Optical Drive, Only $1295!

These MaxOptix drives use erasable,removable media and perform just like a fast hard drive! Take advantage of this one time opportunity and order a fully refurbished drive with a full CSC warranty. Kits are available which include a Megatower enclosure, FastCache controller with 4MB cache, 1GB disk and all the cables, ready to plug and play for **$1595!** Bare Drive Only $1095.



NEW SCSI-II LOCAL BUS CONTROLLER! MAKES WINDOWS SCREAM! $149!

It's here! The hottest local bus SCSI controller is now available! CSC's new AK-47 FastCache controller transfers over 100Mbits/sec on the VESA bus! This card is absolutely the hottest product we have ever carried! Our first shipment of 200 units sold out in less than a day! Call Corporate Systems Center soon and get your cards before the dealers do!

Adobe Photoshop 2.0

The premium Macintosh photographic image manipulation and design tool! Adobe Type Manager is included! This package must be sold as a bundle for only **$169**! After registration, upgrades are available from Adobe. This is a **very** limited offer! Order today!

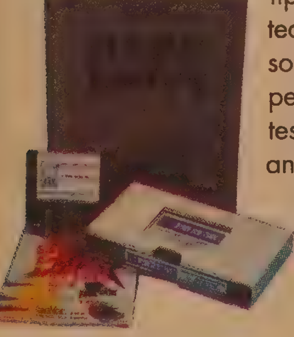
MAC COMPATIBLE PRODUCT
$169!

Call Today!

Hard Drive Bible

ONLY $39.95

The essential reference manual and software for any dealer and system integrator who installs hard drives. The package includes: VHS video tape; massive listing of parameters and settings; jumper settings; controller card information; formatting answers; installation tips; Seagate's tech support software; CSC's performance test software; and more! **Don't be without it!**

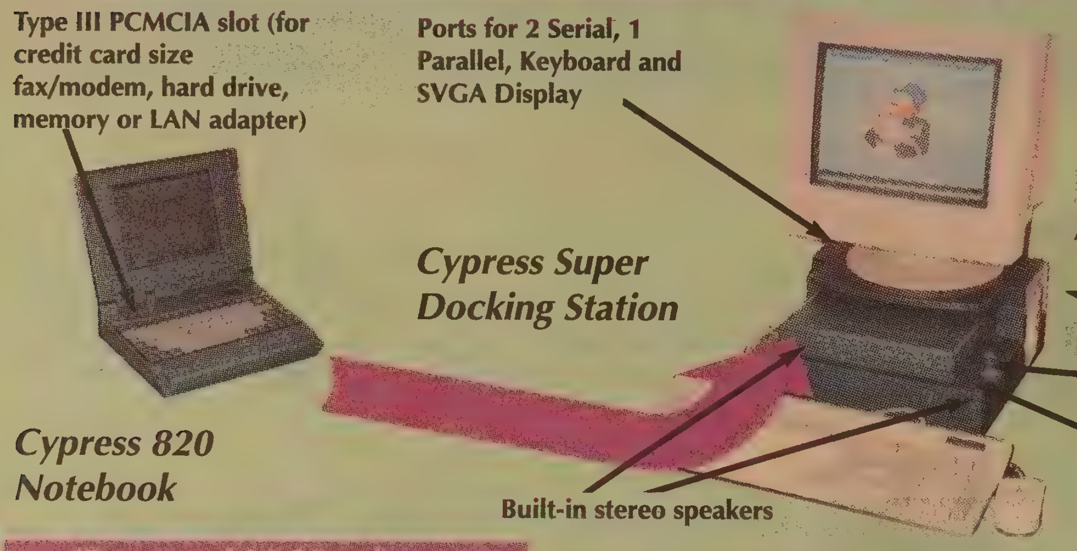


CORPORATE SYSTEMS CENTER
1294 Hammerwood Ave. Sunnyvale, CA 94089
Tel.(408) 734-DISK
Fax (408) 745-1816

Prices subject to change. Quantities are limited on some items.
All trademarks are property of their respective owners.

We Have What You Want!

Cypress 820 Notebook gives 32-Bit VESA Local Bus Power and the expandability of a desktop computer!


Type III PCMCIA slot (for credit card size fax/modem, hard drive, memory or LAN adapter)
Ports for 2 Serial, 1 Parallel, Keyboard and SVGA Display
Cypress Super Docking Station
Cypress 820 Notebook
Built-in stereo speakers

Built-In 16-Bit Future Domain SCSI Controller (>10MB/ms)
Big screen monitor stand
4 expansion slots: 2-32 Bit VESA Local Bus, 2-16 Bit ISA with space for 3 full length cards and 1 3/4 sized card.
25-Pin external SCSI port
Internal 3-1/2″ drive bay for SCSI hard drive of up to 2GB
Drive bay for SCSI CD-ROM or tape back-up

Cypress 820 Notebook
Standard Configuration

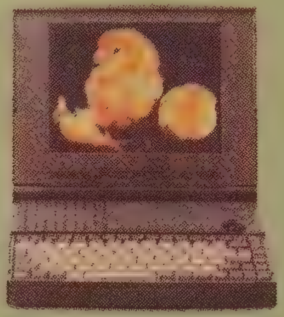
- 9″ Active Color Matrix or 64 gray scale Mono
- 32-Bit VESA Local Bus Video
- 32-Bit VESA Local Bus IDE Controller
- 128K Secondary Cache (optional)
- PCMCIA slots (type III)
- 4MB RAM, expandable to 8 or 20MB
- 1.44MB floppy drive
- 120MB hard drive (200MB or 252MB optional)
- Built-in trackball
- Carrying case, battery adapter
- Battery life: 2 hours for color; 3 hours for mono
- 11″ x 8.6″ x 1.9″, 6.6lbs

Model/CPU	820M Monochrome	820T Color Active Matrix
486DX-33	$2000	$3650
486DX2-66	$2280	$3930
Super Docking Station	$530	

Cypress 650 Notebooks
Standard Configuration

- Local Bus VGA Display & Local Bus IDE
- 4MB (expandable to 8 or 20MB)
- 120MB hard drive (200 or 240MB optional)
- 1.44MB floppy drive
- 10″ LCD display
- Built-In trackball
- Battery life: 1-1/2 hours for color; 2 hours for mono
- PCMCIA slots (type II)
- Ports for 1S, 1P, Keyboard & SVGA monitor
- Carrying bag & adapter
- 11″ x 8.6″ x 1.7″, 6.5lbs

Upgradable screen & upgradable speed!



Model / CPU	650M Mono	650P Passive Color	650T Active Color
486DX-33	$2070	$2650	$3550
486DX2-66	$2350	$2930	$3830

Video faster than comparable models of Toshiba!

Notebook Accessories

Universal Docking Station for all notebooks, any brand, any speed

- Connects to the parallel port
- allows notebooks to expand by adding up to 4 SCSI devices including CD-ROM, hard drive, tape back up or Bernoulli $299

PCMCIA PC Cards (Fax/Modem, LAN, memory) ....CALL
Notebook hard drives (120MB, 200MB, 252MB) ...CALL

Cypress 200M Mono Notebook
486SX-25 Intel CPU (Upgradable)

- 9.5″ 64 gray scale display
- 4MB RAM (expandable to 8 or 20MB)
- 1.44MB floppy w/120MB hard drive
- Trackball, carrying case & adapter
- 8.9″ x 11.4″ x 1.7″; 5.5lbs

Most affordable yet powerful!

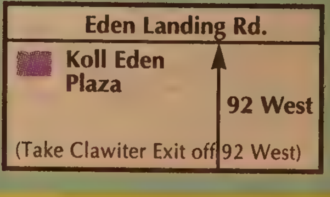
Only $1500

Cypress is a specialty store for all your notebook needs. We service ALL notebooks, any brand, any speed, any problem!

CYPRESS CYPRESS CYPRESS CYPRESS

CYPRESS COMPUTER

26120 Eden Landing Road, Suite 6,
Koll Eden Plaza, Hayward, CA 94545
Tel: 510-786-9106 ❖ Fax: 510-786-9553
Hours: Monday-Friday 9:00-6:00


Eden Landing Rd.
Koll Eden Plaza
92 West
(Take Clawiter Exit off 92 West)

IBM Solid State File
IBM
P.O. Box 100
Somers, NY 10589
(914)766-1900.

New Media Ethernet LAN cards
New Media Corporation
15375 Barranca, B-101
Irvine, CA 92718
(714)453-0100

SunDisk SDP Series PCMCIA cards
SunDisk Corporation
3270 Jay St.
Santa Clara, CA 95054
(408)562-0500

Tandy Z-550 Zoomer
Tandy Corporation
1800 One Tandy Center
Fort Worth, TX 76102
(817)390-3700

Newton PDA (Personal Digital Assistant) and other Apple personal interactive electronics products.

The DTR-1 is much smaller than previous pen-based machines, even light enough to hold in your hand.

Ameritech plans to provide notification of fax and voice messages, delivering them to Newtons or other devices. BellSouth and USWest intend to prototype screen-based phone devices of some sort (though the exact nature of what this might entail is not entirely clear). Siemens and ROLM have been collaborating with Apple since March on the development of NotePhone, a combination of Siemens-ROLM and Newton technology which will provide access to telephone and fax features.

AppleLink, Apple's information and communication service, has also added a variety of new information services from Reuters, RR Donnelley, GeoSystems, Dow Jones, Ziff Desktop Information, USA Today, Grolier Electronic Publishing, and Tribune Media Services. Support for connecting to these services is expected to be included with products in the Newton family. Information from ZiffNet Selections, including industry news, product reviews, and downloadable software from Ziff publications like *MacUser*, *MacWEEK*, and *PCWeek* will be included. A daily newsletter from the *Wall Street Journal*, CustomClips news clipping service, and Company Reports service will be provided by the Dow Jones news service. Tribune Media Services intends to provide feature columns (horoscopes, etc.) as well as a TV listings service and stock market news. Grolier will provide its Academic American Encyclopedia. *USA Today* and Reuters intend to provide clippings from their news services, and Central Weather will provide a 24-hour weather service for over 130 cities around the world. Travel information to be added will include Road Trip Planner from GeoSystems, a road trip planning service, and Worldview TripPlan. A new Mobile Computing area will cover portable products like the Newton.

Newton applications will be developed using the Newton Toolkit, which provides graphical layout capabilities, and uses the NewtonScript programming language, an object-oriented environment which will provide developers with rapid debugging turnaround times. Newton applications can be built up as a collection of interacting software objects, using a powerful set of reusable application objects provided with the toolkit. Authoring and content tools will also be provided with the toolkit.

Tandy Zoomer

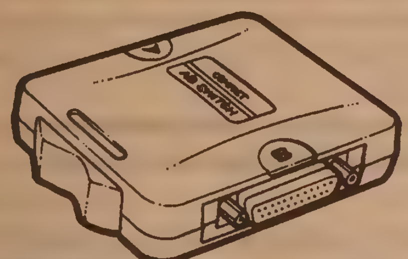
Tandy has announced its Z-550 Zoomer PDA, a pen-based palmtop machine intended to compete in the same market as the Apple Newton. The unit weighs just under 1lb. and operates for up to one hundred hours on three AA batteries, according to Tandy.

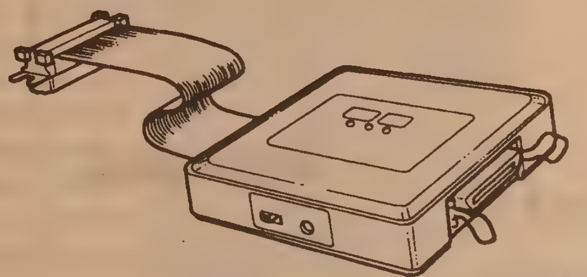
It comes with an impressive array of built-in software that is usually optional with current palmtop computers. Built-in

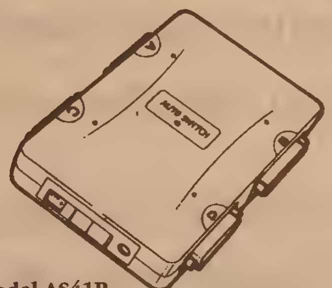
info™

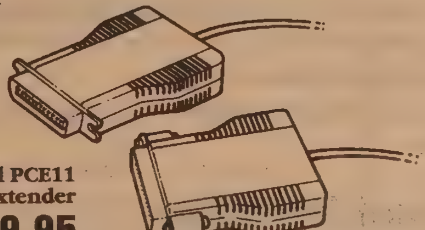
"One Word – One Source™" Innovative Computer Accessories

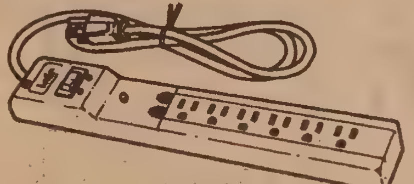
Printing Devices
for Parallel Printers


Model CAB1
Compact AB Data Switch
$6.00


Model PB256
Compact In-Line Buffer
$80.00


Model AS41P
Compact 4-to-1 Auto Switch
$27.50


Model PCE11
50 Ft. Printer Extender
$49.95


Model SP-FM1
6 Outlet Power Strip
Fax/Modem Protection
$13.75

Info Products Easy Ordering: 408-374-7290, Ext. 680

Info Products . 541 Division Street . Campbell, CA 95008 . 408/374-7290 . Fax 408/378-1068

Info Products leads the way with value, quality and innovation. Offering the most complete line of computer accessories including everything from scanners and surge protectors, to printer sharing devices and mice, Info is your single source!

1993 Info Products. Info and "One Word-One Source" are registered trademarks of Info Products.

MIS®
SERVICES
"Service That's Second to None"

Certified
Netware®
Engineer
Training

Novell Authorized Education Center
Novell Gold Authorized Reseller™
IBM OS/2 LAN SERVER 3.0 Training
UNIX System Laboratories Licensed Education Center

- Strong Instructors
- Hands-On Experience
- Lowest Pricing
- Issues Related
- Practical Integrated Coverage of Materials

CALL NOW:
800-300-4MIS
510-208-5700

TRAINING on 486's
Centrally Located at 12th Street/City Center BART Station
MIS Services, Inc. • 436 Fourteenth St., Suite 1030,
Oakland, CA. 94612 • (510) 208-5700

If Tandy's prediction of one hundred hours of continuous use holds true, the Zoomer will be an admirable competitor for the HP-100LX and other high-end palmtop machines.

applications include a note pad, date book, address book, bank book, calculator, dictionary, thesaurus, world time, language translator (twenty-six languages with up to a thousand words per language), and others. It includes three games as well, and a reference section for US city and state information, a nutrition guide, US and international dialing codes, and other information references. The Z-550 includes a version of Quicken for keeping track of personal finances, cash expenses, bank transactions, and credit card spending. The machine will include an infrared port for wireless communication with another Z-550. An RS-232 compatible serial port provides information transfer to a PC or other serial device.

The Zoomer uses a special version of the GEOS operating system, which has an open interface that will allow third-party developers to create applications for the machine. The machine will include a single PCMCIA 2.0 card slot, and is based around a custom Intel-compatible CPU chip. The machine includes 1MB of system RAM, 640K for the system heap and 384K for RAM disk space. The built-in applications come to a whopping 4MB, allowing the Z-550 to include a vast amount of built-in information and applications (compared to other palmtop devices). Suggested retail price will be $699, and Tandy slates October as its target ship date.

This machine has very impressive overall specifications. Though it lacks a spreadsheet feature, something I have found to be very useful in my Casio SF-R20, it does have built-in Quicken in ROM, as well as the potential for third-party applications to be downloaded via the serial port. If Tandy's prediction of one hundred hours of continuous use holds true, this machine will be an admirable competitor for the HP-100LX and other high-end palmtop machines.

Casio will also be shipping a Zoomer-series PDA called the XL-7000.

Bigger Gets Smaller

SunDisk Corporation has announced a number of high-capacity PCMCIA-compatible Flash RAM cards, called the SDP series. These cards, compatible with both PCMCIA 1.0 and 2.0 standards, feature 2.5–20MB of non volatile Flash RAM storage.

Unique features of these cards include a 512-byte sector size (the same as a hard disk), hardware remapping of bad areas of the card (down to the bit level for increased longevity of the card), and Stacker compatibility. SunDisk claims that the dynamic error detection and correction algorithms will allow the card to have an operating lifetime of over 100 years of normal use. This is much

continued on page 275

New Generation of American Network Solutions

ISC Computers & Communications, Inc.

Network Products for Servers & Workstations

Authorized Reseller

WordPerfect CORPORATION

ACER

AST® COMPUTER

3Com

Allied Telesis Inc

proteon InterNet RESELLER PROGRAM

USRobotics™

MICROSOFT CONSULTING CHANNEL Alliance

COMPUTER® ASSOCIATES Software superior by design.

SCO™ AUTHORIZED RESELLER

NOVELL

TELEBIT®

Maynard® An ARCHIVE Company

DigiBoard

SunSoft A Sun Microsystems, Inc. Business

Lotus®

Axil WORKSTATIONS

intel®

hp HEWLETT PACKARD

SynOptics Communications, Inc.

UNIVEL™

From Server-Client to System Boards, We Have The Solutions

Unix-Operating Systems

SCO OPEN SERVER supports Netware, DOS, and Windows

- UNIX/ OPEN DESKTOP/ OPEN SERVER.
- SCO/ Interactive UNIX/ Univel
- Multiuser, multi tasking, open-system. Industry standards.
- Support TCP/IP,NFS,IPX/SPX.
- Support MS-DOS Compatible applications.
- Support Multi Processor systems (SCO MPX).

UNIVEL / SCO / SUNSOFT

- UNIVEL SVR 4.2 P.E./ Utilities (CD-ROM)$169/179
- UNIVEL Applications Server............................ $925
- NEW...SCO OPEN SERVER(CD-ROM) 16-user..$1695
- SCO ODT Personal / Server................ $939/759
- SCO TCP/IP RTS 2 user/unlimited/MPX... $295/475/675
- Sunsoft Interactive Unix SVR3.2.4 Single/Multi.$325/595
- Solaris 2 X86 1-2user/Workgroup Server..$539/1398

HP Product Family

- HP 9000 versatile Business Servers-Series 800
- HP 9000 practical Business Workstations-Series 700
- Call for HP/CA-UNICENTER bundled promotion.
- HP LaserJet 4si MX for Multiple platforms Networks.
- HP PaintJet XL300PS RISC based Postcript......$3155
- HP 715/33 PA-RISC Workstation......................$5390
- HP DesignJet 600 Piotter/DraftPro DXL/EXL.......$call

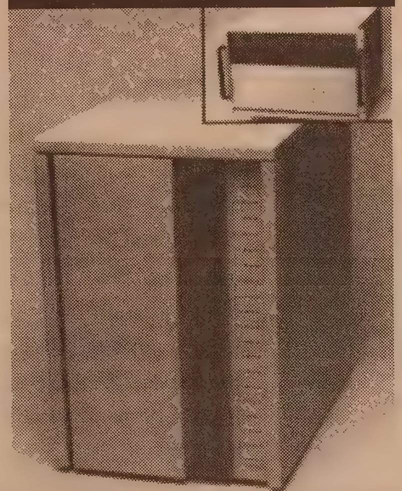
Computer Associates

- Call us to computerize your accounting, marketing and contect system with CA office automation products.
- Computer Associate-Accpac Plus Accounting
- Authorized Consultant and Qualified Installer avail.
- Fully client-server setup or stand alone systems.
- Thousands of vertical market add-in products.
- Supports Novell, Lantastic, OS/2, and more....

Apple Product Family

- ISC's LATEST addition to the product line...
- Apple Workgroup Server 95, Quadra & Centris
- MAC Color Classic, Classic II, IIVX & LCIII.
- MAC Powerbook Duodisk & Powerbook
- The new addition to the Apple Product Family...**Centris 660AV,Quadra 840AV**
- New centris 660AV W/230MB HDRV & CD-ROM for....................................$2595
- All printer & other peripherals are available.

Servers... Workstations...



Multi-platform Services

- Free consultation Hot Line
- Best price on Networking peripherals & systems
- Network system design/training
- Modem/Phone/On-Site support
- Data/Voice/Fax Networks
- Hundreds of network applications available
- Scheduled maintenance
- Multi-platform connectivities.

Novell Specials

- Novell Self-pace courses kits for administrators/ CNE
- NetwareV3.11(10/20/50)...................$1249/1699/2439
- NetwareV3.11(100/250usr)........................$3399/6699
- NetwareV4.00(5/10/25/50).........$865/1978/2828/3799
- NetwareV4.00(100/250)............................$5319/9499
- Multi Protocol Router (IPX,IP,AppleTalk,OSI)....$875
- LAN Workgroup (5/20)................$1119/2599

Novell Update

- We are SFT III specialists, call us to set up your ZERO-downtime mission critical servers.
- Netware 4.01 is shipping now....call for upgrades.
- NetWorth hubs integrates Netware multiprotocol router.
- LAN Workgroup (10-user).....SPECIAL............$1590
- Netware HostPrint is available now, starting at $495
- NFS Gateway-(5/10/50usr)............$995/1695/3285

Microsoft/Windows NT

Microsoft SQL database Server 10 user........$2139
Runs on LAN Manager, Netware, Banyan VINES, and IBM LAN...

- **BEST Windows NT VLB SYSTEM...............$2615**
- Need 32-bit applications?
- We have over 200 to choose from.....

Windows NT/upgrade..........................$348/285

Windows NT Advance Server......................$1295

High Performance Arena

High Performance Super Systems

All systems are preloaded with one of the following OS: Windows NT, Lan Manager, SQL, SCO ODT and Open Server Solaris 2 X86 or interactive Novell 3.11, 4,0 and Univel

Call for preconfigure O.S. system pricing...

CNE's Choice-AXIL

The Best SUN SPARC clone HWS-210

40MHz SPARC chip microprocessor, 64k cache, 16MB RAM, 535 MB hard drive, 3 SBus slots, 1.44FD and GX Frame 20-inch color monitors...................................$7349.00

- If you are looking for SPARC clone that's design for the technical and commercial user, look no futher!

Call us to find out how we can integrate your workstations.

Tech Support Hotline:
(408) 227-2287

Tel: (408) 227-2286 • Fax: (408) 227-3086

Corporate/School PO and RFP welcome

ISC Computers & Communications, Inc.

23 Great Oaks Blvd.. Suite E, San Jose, CA 95119
Free initial consultation

PCMCIA Modems Are Here, Ready For Action

Megahertz Offers A Fast, Full-Featured Fax/Modem For Mobile Users

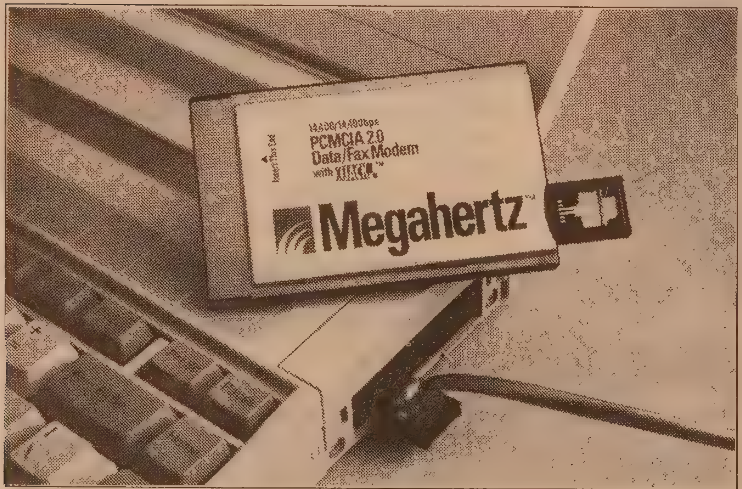
BY ED KAHN

RESOURCES:

Megahertz Data/Fax Modem, $599
Megahertz Corp.
4505 S. Wasatch Blvd.
Salt Lake City, UT
84124
(801)272-6000

For months now, I have been talking about those amazing PCMCIA products that are about to hit the market. PCMCIA is a standard that allows manufacturers to make devices about the size of a credit card that will fit into any host device that has a PCMCIA slot. This promises to open up the whole laptop and portable market to a rash of new products that can be used with virtually any properly equipped computer. More and more computers are coming with this capability. Now the products that fit into these slots are also appearing on the market.

Despite all of the hoopla, Megahertz's new 14,400 baud fax/modem is the first PCMCIA product I have actually been able to try out. It is hard to believe that a device this small can pack this much power, but it all works as advertised. Megahertz has been around a long time making modems and fax/modems for the portable market, and eagerly jumped onto the PCMCIA bandwagon. There are other modems available that fit into the PCMCIA slots, but this one has a few wrinkles that set it apart from the competition. First, it's fast. But more importantly, these folks have figured out an easy way to attach the telephone line to the modem.



On conventional modems, manufacturers routinely offer one or two phone jacks on the modem so you can connect to the phone outlet as well as a phone. With the advent of PCMCIA, this arrangement was no longer possible—the card was so small there was no room to physically house an RJ11 jack. The most frequent solution to this was some sort of device that hung down as a sort of pigtail and accommodated the jack. This is a cumbersome arrangement at best.

Megahertz devised a better mousetrap. Their device is called an XJACK. What they have done is put a pop-out jack inside the modem card itself. Here is how it works: When the card is installed in the slot, a small button is visible on the end of the card. Press the button and it pops out. Although it is no thicker than the PCMCIA card itself, it reveals a receptacle into which you plug the phone line. In other words, it is essentially a jack with no housing. Metal contacts spring into place and the jack makes a perfect connection.

There are two compromises that come with using this small modem. First, since there is no port for a telephone it is not convenient to use the phone line for both voice and modem. There are ways around this and most people will not really see this as a drawback. The second compromise is that there is no speaker in these tiny modems. For fax work it makes little difference, but for some data transmission I miss a speaker. The trend is towards using the speaker of the computer itself to let you in on what is happening, but for now with the Megahertz PCMCIA fax/modem, this is still something in the future.

When you buy a modem, and especially a fax/modem combination, it almost always includes software to get you up and running. A fax/modem without software is useless. So Megahertz has included a full array of software that lets you work in either DOS or Windows environments. Furthermore, each package of software will work for either straight data transmissions or faxes.

Generally, I like Windows fax packages better than DOS-based products. But in this case, I much preferred the DOS software—WordPerfect's MTEZ with ExpressFax. I must confess I didn't spend much time with the data side of the package because there are so many excellent communications programs on the market. But I was impressed by the fax capabilities. Installation was simple, although I did end up calling Megahertz's technical support number. I had to wait a few minutes, but it was an 800 number so I did not mind as much as I do when I am paying the phone bill.

The original problem I had *was* covered in the documentation. But there was a problem with how the literature was organized. In the middle of a detailed explanation of the installation process, it referred to another book that covers one part of the procedure. During all of this I simply forgot that I had to go back to the first book.

I felt like a fool as the technician began telling me what I knew I had already read. In any case, he did not rub it in, and soon I was ready to try to send the sample documents that are included in the package. This is really a help because when I get a new package like this, I am anxious to try it out and often do not have a file ready for faxing. All went as smoothly as I could have hoped for.

Provisions are made for easily creating cover sheets and including your signature and a logo with the fax. This is the best DOS-based fax software I have worked with. The Windows software was adequate, and not much more. I suspect that one reason is that this software, Eclipse Fax, is in reality a subset of a commercial program that is on the market. Software companies that make deals with equipment manufacturers to bundle their software often hope that the customer will like it so much that they will later see the wisdom of buying the retail version. After all, they already know how to use the product and with the special deal included in the bundled version, it makes a lot of sense to move up to the full product.

Megahertz offers excellent documentation, adequate bundled software, and a full five-year warranty. So although the $599 list price is a lot of money, you can expect to pay considerably less at retail outlets; and you get a fast, full-featured fax/modem that offers the greatest convenience for on-the-go users. ■

continued on page 282

Copyright © 1993 by Ed Kahn. All rights reserved.

MPS MULTIMEDIA INC. IS DEDICATED TO THE MULTIMEDIA WORLD OF CD-ROM DRIVES, SOUND CARDS & VIDEO CARDS. YOUR "MULTIMEDIA-ONLY" SUPER SOURCE!

NEW DOUBLE-SPEED DRIVE COMPLETE! SPECIAL ONLY 269!

FREE [illegible]TIME CLUB DI[illegible]NT ON CD-ROM TITLES AFTER PURCHASING ANY HARDWARE! (SOME TITLES ARE OEM & MUST BE PURCHASED TOGETHER) CALL FOR DETAILS.

SCSI CD-ROM DRIVES

CD-ROM DRIVE ONLY. REQUIRES SCSI INTERFACE AND DRIVERS. FOR IBM OR MAC

#	Drive	Specifications	Price	
1	**TOSHIBA XM-3401B**	200MS AVG. ACC, 330KB/SEC TRF, 256KB BUFFER PHOTO CD MULTISESSION, XA, SCSI-2, INTERNAL	$429	EXTRNL 3401E $569
2	**SONY CDU-561 CD-ROM**	285MS AVG. ACC, 300KB/SEC TRF, 256KB BUFFER PHOTO CD MULTISESSION, XA, SCSI-2, INTERNAL	$409	EXTERNAL OEM $489
3	**PANASONIC CR-533**	290MS AVG. ACC, 300KB/SEC TRF, 256KB BUFFER PHOTO CD, XA, SCSI ($399 W/CARD COMPLETE!)	$369	EXTERNAL OEM $449
4	**TEAC CD-50 CD-ROM**	265MS AVG. ACC, 350KB/SEC TRF, 256KB BUFFER PHOTO CD MULTISESSION, XA, SCSI-2, INTERNAL	$359	EXTERNAL OEM $439
5	**TEXEL DM-3024 DRIVE**	265MS AVG. ACC, 300KB/SEC TRF, 64KB BUFFER PHOTO CD MULTISESSION, XA, SCSI-2, INTERNAL	$339	EXTERNL 5024 $469
6	**NEC CDR-55 CD-ROM**	340MS AVG. ACC, 300KB/SEC TRF, 64KB BUFFER PHOTO CD MULTISESSION, XA, SCSI-2, INTERNAL	$299	EXTERNAL OEM $379

MEDIAVISION INTERNAL DRIVER/CABLE KIT FOR PAS16............$29
TRANTOR MACINTOSH CD-ROM DRIVERS W/MUSICBOX...........$39
MEDIAVISION EXTERNAL DRIVER/CABLE KIT FOR PAS16...........$49
8-BIT SCSI (OEM) FOR OS2/NT(TMC850) OR DOS(T130B)..........$59
TRANTOR T130B, W/SCSI-WORKS! CD,HD,TAPE,SYQ DRVR........$79
TRANTOR T228, 8-BIT MICROCHANNEL W/SCSI WORKS!..........$149
MINISCSI + PARALLEL TO SCSI 300KB/SEC (EXTERNAL)..........$159
NEW! MINISCSI EPP PARALLEL TO SCSI 1MB/SEC (F/EXT).......$199
ADAPTEC 1522 W/EZ-SCSI 16-BIT, 5MB/SEC, HD,TAPE,CD.........$159
ADAPTEC 1542 W/EZ-SCSI 16-BIT, 10MB/SEC, HD,TAPE,CD.......$259

PANASONIC DRIVES

CD-ROM DRIVE ONLY. REQUIRES AT-BUS INTERFACE. *CONNECTS TO THE SBPRO/16!*

#	Drive	Specifications	Price	
1	**PANASONIC CR-522**	390MS AVG. ACC, 150KB/SEC TRF, 64KB BUFFER PHOTO CD, SINGLE-SESSION, AT-BUS, INTERNAL	$179	EXTERNAL OEM $259
2	**PANASONIC CR-562**	320MS AVG. ACC, 300KB/SEC TRF, 64KB BUFFER PHOTO CD MULTISESSION,XA,TRAY TYPE,INTRNL	$249	EXTERNAL OEM $329

AT-BUS, 8-BIT CARD, DRIVERS FOR PANASONIC 522/562..........$20
DRIVER/AUDIO/CABLE KIT FROM 522/562 TO SBPRO/16..........$20

ALL CARDS/KITS COME COMPLETE WITH CABLES & DRIVERS

MPC SOUND CARDS

SOME SOUND CARDS HAVE BUILT-IN SCSI OR AT-BUS CD-ROM INTERFACES. SAVE!

#	Card	Specifications	Price	
1	**TURTLEBEACH MS**	(MULTISOUND) PROTEUS/1XR, E-MU CHIP, 16-BIT FOR WINDOWS, RATED BEST QUALITY! NO DMA'S	$499	NO CD-ROM PORT
2	**WAVE BLASTER**	PROTEUS/1XR, 4MB ROM E-MU CHIP, FOR SB/16 FREE CAKEWALK MUSIC SEQUENCING SOFTWARE	$239	FOR SB16/ASP CARD
3	**PROAUDIO STUDIO 16**	16-BIT, VOICE RECOGN, MIC & MORE SOFTWARE MIDI, 44kHZ REC., BUILT-IN SCSI ($19 F/CABLES)	$209	BUILT-IN SCSI PORT
4	**SOUND BLASTER 16ASP**	16-BIT, VOICE RECOGN, MIC, 4:1 COMPRESSION MIDI,44kHz,WAVE OPTION ($20 MORE FOR ENCY)	$199	AT-BUS FOR 522/562
5	**MSC-01 ENSONIQ 128**	DIGITALLY SAMPLED ENSONIQ CHIP, 128 VOICES FOR WINDOWS,FREE TMC850 SCSI FOR TOSHIBA	$189	FREE SCSI ADAPTR
6	**LASERWAVE SUPRA 16**	MICROSOFT WINDOWS SOUND SYSTEM, SBPRO COMPATIBLE, 16 BIT, 48kHz, ADPCM 4:1 A-LAW	$169	AT-BUS FOR 522/562
7	**PROAUDIO SPECTRUM**	16-BIT,CD-QUALITY,MIDISOFT STUDIO,MONOLOG MIDI, 44kHZ REC., BUILT-IN SCSI ($19 F/CABLES)	$149	BUILT-IN SCSI PORT
8	**SBPRO DELUXE**	16 BIT, (8-BIT REC/PLAY) 44kHz,MIDI, 20 VOICE INCLDS. 2 FREE GAMES, ($20 MORE FOR ENCY)	$109	AT-BUS FOR 522/562
9	**GOLDEN SOUND CARD**	8-BIT, 48kHz PCM, 4:1 COMPR, AD-LIB COMPAT. SOUND BLASTER SUPPORT, MIDI, WINDOWS 3.1	$59	NO CD-ROM PORT

DIGITAL VIDEO CARDS

SOME OLDER DIGITAL VIDEO CAPTURE CARDS REQUIRE VGA FEATURE CONNECTOR.

#	Card	Specifications	Price	
1	**VIDEO SPIGOT**	CAPTURE FULL MOTION, AVI/MCI, UP TO 320X240 FREE VIDEO FOR WINDOWS, (NTSC, PAL, SECAM)	$349	NEW LOWER COST
2	**PROMOVIE SPECTRUM**	CAPTURE FULL MOTION, AVI/MCI,UP TO 320X240 FREE VFW & ACTION! V2.5, RS-422 SERIAL PORT	$299	FROM MEDIAVISION

MEDIA V, VIDEO IN WINDOW, SINGLE FRAME CAPTURE..........$199
VIDEO SPIGOT W/TOOLBOOK & MORE($400 SW VALUE)..........$429

OTHER DIGITAL INPUT/OUTPUT VIDEO CARDS AVAILABLE

MULTIMEDIA KITS

CREATE YOUR OWN CD-ROM LIBRARY. BUY ONLY THE CD-ROM TITLES YOU NEED.

#	Kit	Contents	Price	
1	**NEXTSTEP 2XCD/16**	PANASONIC 562 DOUBLE-SPEED,320MS,300KB/S SOUND BLASTER 16 ASP ($20 MORE FOR ENCY.)	$459	ONE SLOT SOLUTION
2	**NEC STEP CD/16**	NEC CD-55 DOUBLE-SPEED,340MS,300KB/S,64KB PRO AUDIO SPECTRUM 16 (OEM), W/CBLE&DRVR	$439	ONE SLOT SCSI/16
3	**BLASTER CD/8**	PANASONIC CR-522, 380MS, 150KB/SEC, 64KB SBPRO DLX ($20 MORE FOR ENCY, +$70 FOR 562)	$299	LOWEST COST KIT
4	**PAS16 KIT (OEM)**	CONNECT ANY SCSI CD-ROM DRV. TO THIS CARD! COMES W/DRIVERS,SCSI & AUDIO CBL.(NO DRIVE)	$149	WITH CABLE/DRIVERS

CD-TITLE FLEX PAKS

VALID ONLY AT TIME OF PURCHASE OF HARDWARE. NO SUBSTITUTIONS, PLEASE.

#	Pak	Titles
1	**BEST VALUE PAK**	BOOKSHELF '92 (7 REF), TIME TABLE OF HIST. ANIMALS!, MAYO CLINIC HLTBK, PC-SIG 11TH
2	**WINDOWS MPC PAK**	GROLIER'S MPC ENCY, U.S. ATLAS, WORLD ATLAS CHESSMASTER 3000 ENH., MAVIS TEACHES TYPE
3	**SIERRA GAME PAK**	KING'S QUEST V, JONES IN THE FAST LANE, ADV. OF WILLY BEAMISH, SPACE QUEST IV, STELLAR 7
4	**KID'S CD PAK**	ARTHUR'S TEACHER TRB,COMPTON'S FAMILY CH MIX MTHR GOOSE,PETER&WOLF,BEAUTY&BEAST

FIVE TITLES DISC. $280
YOUR CHOICE ONLY $89 WITH HARDWARE
UP TO 45% OFF CLUB

SPEAKER SYSTEMS

SOME SPEAKERS REQUIRE BATTERIES OR ADADAPTER FOR BASS OR TREBLE BOOST.

#	System	Specifications	Price	
1	**ALTEC ACS 300**	36 WATT SHIELDED, 4" WOOFERS, 1/2" TWEETERS, POWERED SUBWOOFER W/ ACOUSTIC CHAMBERS	$279	36 WATT SYSTEM
2	**LABTEC CS-550**	SHIELDED SPEAKERS, BUILT-IN POWER BOOSTER BASS/TREBLE BOOST SWITCH,DC 6 VOLT,STEREO	$29	STEREO SPEAKERS

ALTEC LANSING ACS-50.......$79 LABTEC CS-100 SHEILDED....$19
ALTEC LANSING ACS-100...$139 LABTEC CS-900 W/ADAPTR...$69

OTHER SPEAKER SYSTEMS AVAILABLE

LOWEST PRICES! LARGEST SELECTION! FOR MPC DOS & MAC!

APPLICATIONS/BUSINESS	Club*	Disc
Action! (MPC) disc only	$19	$29
Amer. Bus. Phone Book '92	$19	$29
CorelDraw 3.0 CD-ROM	249	269
Corporate Snapshots (Info)	$29	$39
Int'l Bus & Econ Atlas	$29	$39
Lotus 123 Multimedia Ed. 1.1	$89	N/A
Marketing Master '92	$19	$29
Microsoft Works Multimedia Ed.	$49	$59
Multimedia Make Your Point	$69	$79
Macintosh Trantor CD Drivers	$39	$45
Macromind Director 2.0 (MAC)	$99	129
ProPhone 92' 3 Disc Bus & Res	$69	$79
ProPhone 93' Business Ed	$29	$39
ProPhone 93' 7 Disc Bus & Res	139	149
Publish It! 2.0 (100+ Clipart)	$29	$39
USA Today (1000+ News Art)	$57	$69
Video For Windows Microsoft	129	139

EDU-MEDIA CD TITLES	Club*	Disc
Animals! SanDiegoZoo (MPC)	$25	$35
Animals In Motion	$37	$42
Amer. Heritage Dictionary	$52	$59
Atlas Pack (U.S.&World)	$25	$35
Beyond Wall of Stars	$29	$35
Berlitz French (MPC) 8-CD	129	159
Berlitz German (MPC) 8-CD	129	159
Berlitz Italian (MPC) 8-CD	129	159
Berlitz Spanish (MPC) 8-CD	129	159
Bookshelf 92' (7 Ref Lib)	$49	Call
CIA World Fact Book	$19	$29
California Elec. Traveler (MPC)	$35	$39
College Handbook 1992	$29	$39
CD Deluxe Pak (4 Titles)	$49	$69
800 College Boards	$32	$39
Compton's Interact.'92 Ency.	259	279
Compton's Interact.'92 Upgr	$99	139
Compton's MPC Ency	$79	$99
Compton's MPC Ency n/man	$49	$59
Compton's Family Ency	$29	$39
Cinemania Microsoft (MPC)	$59	$69
Distant Suns (MPC)	$75	$85
Dictionary of Living World	$35	$45
Dict. & Languages	$13	$15
Desert Storm (MPC/MAC)	$19	$29
Encarta 92' Ency. (MPC)	249	259
Electronic Home Library	$64	$69
Family Doctor (Ans. to 1500)	$29	$39
Family Edu Collections	$29	$39
Geo Vision (Vector Map)	$14	$15
Grolier's Ency. 92' (MPC)	$49	$59
Grolier's Ency. 91' (DOS)	$19	$29
Great Cities World V1 (MPC)	$21	$29
Great Cities World V2 (MPC)	$21	$29
Great Wonders World Vol.1	$46	$49
Greatest Book Collection (150)	$39	$49

EDU-MEDIA CD TITLES	Club*	Disc
Guiness MPC Disc of Records	$29	$39
Guiness DOS Disc of Records	$16	$19
Library of the Future 1 (450)	$45	$49
Learn to Speak Spanish Berlitz	$59	$69
Mayo Clinic Health Book (MPC)	$29	$39
Mavis Beacon T. Typing (MPC)	$25	$35
Mammals Nat'l Geographic	$29	$39
Mars Explorer by Virtual (MPC)	$39	$49
Mega Movie Guide	$49	$59
Monarch Notes (MAC/PC)	$59	$69
Our Solar System (Chestnut)	$13	$15
Space Adventure Interactive	$35	$59
Street Atlas USA (MPC Vector)	$95	109
Time Table of History (Sci/Inn)	$19	$29
Time Magazine Almanac 91'	$29	$39
Time Traveler (MAC)	$99	129
Toolworks Ency. 91' (MAC)	$59	$79
Toolwork's Reference Library	$21	$29
U.S. Atlas with Automap	$25	$35
U.S. History (DOS/MAC)	$29	$39
U.S. Presidents	$33	$39
U.S. State FactBook (MPC)	$33	$39
USA Wars- Civil War (DOS/MAC)	$35	$45
USA Wars- WWII (DOS/MAC)	$35	$45
USA Wars- Korean War (DOS/M)	$35	$45
Vital Signs Hlth Ref (MPC/MAC)	$69	$79
View From Earth (Time MPC)	$57	$69
World Atlas v3.0 (MPC)	$19	$29
World Vista (MPC)	$52	$59

GFX MUSIC SHAREWARE	Club*	Disc
Agfa Type CD-Font Library (MAC)	$99	119
Background Elements (MAC/D)	$99	129
Beethoven's 9th Sym (MAC)	$75	$79
Beethoven's String 14 (MAC)	$19	$29
Bibles & Religion (Chestnut)	$13	$15
Clipart Goliath (Chestnut)	$13	$15
Colossal Cookbook (Chestnut)	$13	$15
Composer Quest (Dr. T's MPC)	$29	$39
Complete Bookshop (Chestnut)	$13	$15
Deathstar Arcade Batl (Chestnut)	$13	$15
Desktop Pub CD v2.0 (MAC)	$29	$39
Dict. & Languages (Chestnut)	$13	$15
DTP PRO Clipart (MAC/DOS)	$19	$29
Elec Library of Art Vol 1 (MPC)	$29	$39
HAM Radio ver 3.0 (Chestnut)	$13	$15
Hotstuff I, Danger (Anim)	$19	$25
Illus. Works of Shakespeare	$29	$39
Int'l Graphics Library (MAC/PC)	$29	$39
Impressionism (MPC)	$59	$65
Jets & Props (2-disc Clips)	$22	$29
Jazz Multimedia History (MPC)	$66	$72
Kodak PhotoCD Access (M/PC)	$19	$29
Macromind CD ClipAnim (MAC)	$19	$29
MasterTraks Pro v4.0 (MPC)	269	289

GFX MUSIC SHAREWARE	Club*	Disc
Media Clips 4 Disc (MAC/MPC)	$49	$59
MIDI Music Shop (MPC)	$29	$39
Mozart, Multimedia Music (MPC)	$35	$39
Multimedia Beethoven 9th (MPC)	$52	$65
Musical Instruments MS (MPC)	$59	$69
Ocean Imagery Vol.1 (MAC/DOS)	$29	$39
Our Solar System (Chestnut)	$13	$15
People at Leisure (MAC/DOS)	$29	$39
PC-SIG 11th Edition	$19	$29
PC-SIG 12th Edition	$29	$39
Sports ROM (MAC/DOS Clipart)	$29	$39
Shareware Overload (Chestnut)	$13	$15
Sound Library (Wav,MID Clip)	$19	$29
Sound Sensation (Chestnut)	$13	$15
So Much Shareware I	$16	$19
So Much Shareware II	$22	$26
Tempera Access (PhotoCD MPC)	$39	$49
Textures & Backgrounds (M/PC))	$42	$49
TechnoTools (Chestnut)	$13	$15
Too Many Typefonts (Chestnut)	$13	$15
Windoware (Chestnut)	$13	$15
WinWare Vol 3 (MPC)	$19	$29
Wild Places Media Clips (MPC)	$15	$19
World View Media Clips (MPC)	$15	$19

ULTI-TAINMENT CD TITLES	Club*	Disc
600 Days to Coco Island (MAC)	$46	$52
All American Sports	$33	$39
Arcade	$35	$42
BattleChess Enhanced (MPC)	$29	$39
BattleChess	$19	$25
Case of Cautious Condor	$39	$42
Chessmaster 3000 Enh (MPC)	$19	$29
Cosmo Osmo (MAC)	$29	$39
Conquest of Longbow	$45	$52
Conan	$27	$32
Creepy Castle (MAC)	$32	$39
Dune I	$39	$45
Ecoquest:Search for Cetus	$42	$49
Future Wars	$45	$52
Guy Spy (1500 Anim MAC)	$35	$39
Hound of Baskerville	$39	$45
Inspector Gadget (Comic Adv)	$36	$42
Jones in Fast Lane (MPC/DOS)	$25	$35
Kings Quest V (MPC/DOS)	$19	$29
King Arthur Magic (MAC)	$32	$39
Legend of Kyrandia	$56	$65
Loom from Lucas Films	$25	$35
Lost Treasures I	$36	$42
Leisure Suit Larry 1	$45	$52
Manhole	$36	$42
Madness of Roland (MAC)	$42	$49
Monkey Island	$25	$35
Psycho Killer I	$39	$45
Secret Weapons of Luftwaffe	$25	$35

ULTI-TAINMENT CD TITLES	Club*	Disc
Sherlock Holmes Cons.Det I DOS	$25	$35
Sherlock Holmes Cons.Det I MAC	$32	$42
Sherlock Holmes Cons.Det II	$49	$59
Space Quest IV Roger Wilco	$19	$29
Spaceship Warlock (MAC)	$59	$69
Space War	$39	$42
Spirit Excalibur	$29	$32
Sports Best (3 Popular Games)	$25	$35
Stellar 7	$19	$25
Stories Murder Mystery	$34	$39
Star Trek 25th Anniversary	$55	$59
Total Distortion (MAC)	$89	$99
Total Baseball (DOS/MAC)	$29	$39
Town With No Name	$39	$45
Ultima I-VI Collection on CD	$45	$55
Victor Vector (MPC)	$55	$59
Where in World is Carmen San	$25	$35
Who Killed Sam Rupert(M/PC)	$29	$39
Willy Beamish Graphic Advent.	$35	$45
Wing Commdr&Secret Mis 1/2	$29	$39
Wing Comm II w/Speech Pak	$55	$65
Wing Comm II w/Ultima Under	$55	$65
Wing Commdr & Ultima VI	$25	$35

KID'S/LEARNING CD TITLES	Club*	Disc
A+ Grade	$35	$42
Aesop's Fables (54 Fables)	$35	$39
Amanda Stories (MAC/MPC)	$59	$65
Annabel's Dreams (MPC)	$59	$65
Arthur Teacher Trouble (MPC)	$25	$35
Barney Bear Goes to School	$25	$29
Barney Bear Goes to Space	$25	$29
Beauty and the Beast (MPC)	$15	$19
Britannica's Family Choice	$29	$39
CD Story Time (3 Pop. Stories)	$16	$19
Dinosaur Adventure	$29	$39
Family Education Coll 20	$29	$39
Illustrated Holy Bible	$29	$39
Learning at Home	$42	$49
McMillan's Child Dict. (MPC)	$39	$49
Mixed Up Mthr Goose (MPC)	$19	$29
Noisy Silly House (MAC)	$55	$59
Peter & the Wolf (MPC)	$15	$19
Playing w/Lang English (MPC)	$29	$39
Playing w/Lang French (MPC)	$29	$39
Playing w/Lang German (MPC)	$29	$39
Playing w/Lang Japanese MPC	$29	$39
Playing w/Lang Spanish (MPC)	$29	$39
Pinocchio (DOS/MAC)	$47	$52
Our House Family Circle (MPC)	$49	$55
Just Grandma & Me (MPC/MAC)	$39	$45
PuttPutt Joins the Parade	$45	$49
PuttPutt's Fun Pack	$29	$35
Talking Jungle Safari	$45	$49
White Horse Child (MPC)	$25	$29

*Club Prices (1st Column) are LIFETIME after purchase of hardware. (Some OEM Titles must be purchased together). ^Discount Prices (2nd Column) are our normal discount.

NEW CD-ROM TITLES! NEW!

NEW CD-ROM TITLES!!	Club*	Disc
About Cows (DOS/MAC)	$29	$35
Aircraft Encyclopedia (DOS)	$29	$35
Anecdotes Music (DOS)	$19	$25
Audubon's Birds (DOS/MAC)	$19	$25
Audubon's Mammals (M/PC)	$19	$25
Barron's College Guide (DOS)	$19	$25
Bible Library (DOS)	$29	$39
Business Master (DOS)	$20	$25
Bookshelf 93 Microsoft (MPC)	129	139
Book of List (DOS)	$49	$59
C User's Group Library (DOS)	$25	$29
Career Opportunities	$29	$35
California Collection	$16	$19
CICA Windows Disc	$15	$17
Classic Collection (4 Disc)	$59	$69
ClipArt Heaven	$29	$35
ClipMaster 5001	$35	$39
Clinton Goes Multimedia	$29	$33
Coates Art Rev Impress	$29	$35
Consumer Information Disc	$29	$35
Crossword Cracker	$19	$25
Creation Stories	$34	$45
Daytime Express	$20	$25
Education Master	$20	$25
European Monarchs	$29	$35
Ent. Pak Private Eye Mystery	$39	$45
Ent. Pak Triple Tris	$39	$45
Ent. Pak Fly/Drive Spect	$39	$45
Ent. Pak Four Queens Casino	$39	$45
Ent. Pak Leader Board Coll.	$39	$45
Ent. Pak Link's Collector CD	$39	$45
Font Master	$16	$19
Font Master II	$19	$25
Fonts for the Professional	$29	$35
Food Analyst	$39	$49
Future Wars	$49	$52
Fresh Arte	$29	$35
Game Master	$20	$25
Garbo MSDOS	$15	$17
Gifs Galore	$15	$17
HAM Call	$49	$59
Hobbes OS/2 Archives	$15	$17
Interactive Storytime Vol. 1	$19	$25
Interactive Storytime Vol. 2	$29	$35
I Photograph to Remember	$49	$59
In Print Art Library	$49	$69
Just Fonts	$25	$29
Killer Track CD Music Lib	$14	$19
Kids Can Read!	$25	$29
KGB World Factbook	$29	$35
Klotski	$29	$35
Languages of the World	$49	$59
Laura Bow Amon Ra	$42	$49
Ligris Britania	$39	$49
Lost Treasures II	$36	$42

NEW CD-ROM TITLES!!	Club*	Disc
Magazine Rack	$29	$35
Mantis Experimental Fighter	$19	$29
Mario Is Missing/World Atlas	$19	$29
Middle East Diary	$29	$35
Mother of All ClipArt	$18	$23
Murmurs of Earth	$49	$59
National Parks	$25	$35
Nightowl Ver.6	$19	$25
Nightowl Ver.7	$19	$25
Nightowl Ver.8	$35	$39
North American FAX Book	$29	$35
North American Indians	$29	$35
Officer's Bookcase	$29	$35
Original Shareware	$10	$13
Pacific Islands	$35	$45
PC Globe/ Mac Globe	$49	$55
Pharmacist guide to Drugs	$29	$35
Phoenix V.3	$16	$19
Pixel Garden	$29	$35
Plant Doctor	$29	$35
Programmer's ROM	$29	$35
Publique Art	$29	$35
Return to the Moon	$49	$55
RBBS in a box Ver 3.1	$29	$35
Roger Ebert Movie Companian	$29	$35
Scouting Report 92	$29	$35
Seals of the U.S. Government	$29	$35
Simtel 20 MS-DOS Archives	$15	$17
SFX-300 Sound Effects	$14	$19
Shakespeare on Disc	$17	$22
Shareware Concept (Power Tools)	$14	$19
Shareware Extravaganza (4 discs)	$49	$59
Shareware Gold II Vol.2, #1	$35	$39
Shareware Online	$29	$35
Sherlock Holmes on Disc	$17	$22
Sherlock Holmes Cons. Det. 3	$59	$65
Sleeping Beauty	$19	$25
So Much Screenware	$29	$35
Source CD-ROM	$29	$35
Space Series Apollo	$29	$35
Sports Illus. Almanac	$34	$45
Terrorist Group Profiles	$29	$35
Tale of Peter Rabbit	$35	$45
Ultimate Shareware Collection	$25	$29
U.S. Civics	$29	$35
U.S.A. State fact Book	$29	$35
VGA Spectrum	$14	$17
VGA Spectrum II	$19	$23
Visions of Saturn	$25	$29
Windows Master	$20	$25
Windows 3.1 CD (Disc Only)	$13	$19
World of Flight	$25	$29
World of Trains	$25	$29
501 Sound Waves #1	$14	$19
7th Guest NEW 2 CD's 1 Gig.	$55	$59

400 CD-ROM TITLES IN STOCK! (not just available... in STOCK!) See for yourself!

MPS MULTIMEDIA, INC.
MULTIMEDIA PRODUCTION SYSTEMS
342 WEST PORTAL AVE., SAN FRANCISCO, CALIFORNIA 94127

[illegible]
800.533.4MPS
[illegible]
FAX 415.731.1217

FREE CLUB DISCOUNT!
WITH PURCHASE [illegible] DRIVE OR A [illegible]

Please Read the Terms & Conditions: Credit Same As Cash Prices. VISA, MC, Checks accepted. All our products carry a One Year limited warranty. Software Sales are FINAL. Defective software will be replaced. All returns must have an RMA# on the box. For RMA# and technical support please call 415.731.4075. Hardware refunds must be done within 20 days. All returns subject to a 15% restocking fee. Mail Orders: Add $3.00+Shipping. COD's add $5.00. (Cash, Cashiers, Co. Chk). S&H Nonrefundable. Not responsible for typos. Price & availability may fluctuate. All Trademarks & Logos Acknowledged.

Apple® Hot Rebate Promotions

SUPER SAVINGS FROM APPLE®

Now through Sept. 30th, 1993, you may receive a rebate on-the-spot when you purchase selective Apple® printers, monitors, CPUs or even a total selective hardware solution. Please call for more details.

On-the-spot
rebates
On-target
solutions

NO MONEY DOWN FOR 90 DAYS*
On approved credit
INTEREST FREE*

Apple® LaserWriter® Pro 600
The perfect choice for high performance printing

$100

Authorized Dealer

Apple® Macintosh Centris™ 610 computer. Exceptional processing power at an affordable price.

$150

Apple® Macintosh Centris™ 610 with CD

$300

Apple® Macintosh® IIvx computer. Available with a built-in CD-ROM drive.

$150

Apple® Macintosh® IIvx with CD

$300

Apple® Macintosh® Classic® computer. Performance and price in one complete package.

$50

Apple® Macintosh® PowerBook™ 165c computer. Color and power in a notebook computer.

$50

Apple® Macintosh® Color Classic® computer. The complete color package.

$50

Apple, the Apple logo are registered trademarks of Apple Computer, Inc.
Classic is a registered trademark licensed to Apple Computer, Inc.
PowerBook, Macintosh Quadra, Macintosh Centris and PowerBook Duo are non-registered trademarks of Apple Computer, Inc.
Trinitron is a registered trademark of Sony Corporation.
Computown is not responsible for typographical errors. Specifications are subject to change without notice. Financing available on approved credit. Please call store for more details.

San Francisco
CORPORATE SALES ONLY
760 Market Street, 2nd Floor
Mon-Fri 8-6, Sat 10-4
Tel (415) 956 1777
Fax (415) 989 8696

San Francisco
RETAIL SALES ONLY
756 Market Street
Mon-Fri 9-7, Sat & Sun 10-4
Tel (415) 956 8696
Fax (415) 956 5548

Mountain View
2444-A Old Middlefield Way
Mon-Fri 8-6, Sat 11-4
Tel (415) 962 8696
Fax (415) 969 8696

The World of Notebooks

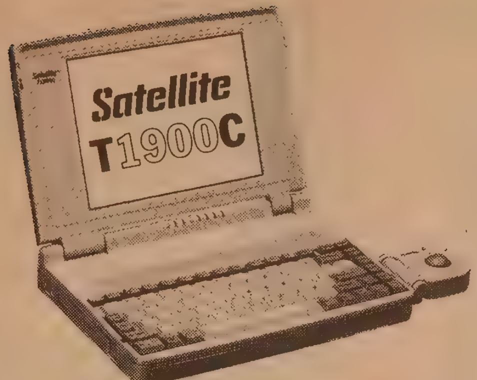
IBM Business Partner
Authorized Advanced Products Dealer

IBM® ThinkPad™ 700c

Quality & Reliability

- 486SLC / 25 MHz
- 4 MB RAM
- 120 MB HD
- 10.5" Color TFT LCD screen

ON DEMO

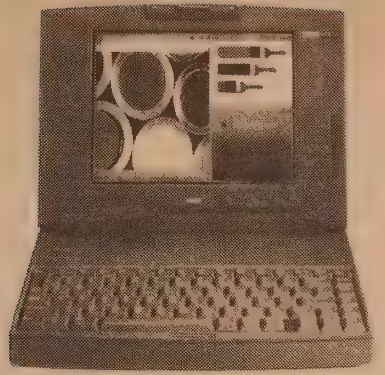


TOSHIBA

Satellite T1900/1900C

- i486SXA / 20 MHz
- 4 MB RAM
- 120/200 MB HD
- DOS® and Windows® pre-installed, trackball

IN STOCK



NEC

NEC UltraLite® VERSA™

- i486SL / 25 or 33 MHz
- 4 MB RAM up to 12 MB
- 120 MB, 180 MB HD
- Active Color and Mono models available

CALL

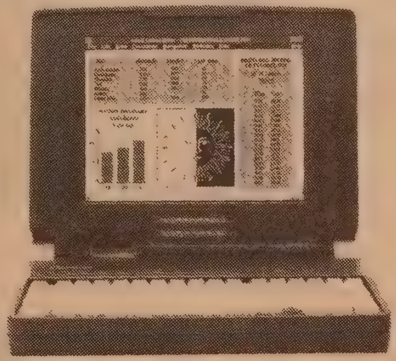
NO LIMITS
AST

AST®
Authorized System Reseller

PowerExec™ 4/25 SL

- Intel 486 SL Processor
- 4 MB RAM
- 80/120 /200 MB HD

CALL

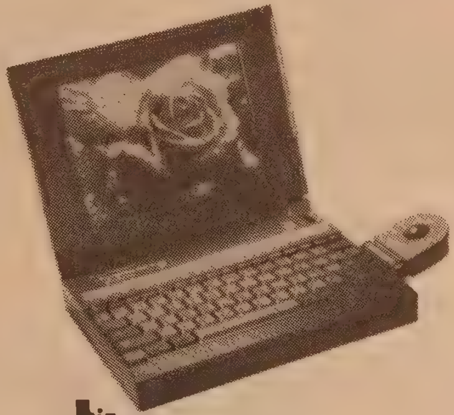


COMPAQ

Compaq Contura 425

- 486SL / 25 MHz
- Available in
- Mono, Passive &
- Active Color

CALL



TEXAS INSTRUMENTS

TravelMate 4000E WinDX2/50

- 486DX2 / 50 MHz
- 4 MB RAM / 200 MB HD
- Active color screen
- Windows®, Trackball, Software Bundle

IN STOCK

'CASE CLOSED!'

With over 30 models, in a variety of styles and materials, Targus offers a quality case for every price range- and every Targus case is covered by a **lifetime replacement warranty.**

TARGUS®
A TRADITION OF EXCELLENCE

LAPTOP ACCESSORIES

MEGAHERTZ MODEM
Internal modem for Toshiba, Compaq, IBM.......
PCMCIA Type 2.0, 2.01 compatible with type II, III or Toshiba IV slots

starts from $199

Megahertz
Linking Your Worlds

Reflects cash prices only. Computown is not responsible for typographical error. Specifications are subject to change without notice.AST, AST logo, PowerExec, Easy Port, Smart Port are registered trademarks of AST Research, Inc. NEC and UltraLite, UltraLite Versa are registered trademarks of NEC Corporation. IBM is a registered trademark and PS ValuePoint and ThinkPad are trademarks of International Business Machines Corporation. All other marks are trademarks or registered trademarks of the products with which the marks are associated.

Pleasant Hill
1525 Contra Costa Blvd.
Mon-Fri 9-6, Sat 10-4
Tel (510) 682 8696
Fax (510) 689 8696

San Jose
780 Montague Expressway/O'Toole
Mon-Fri 8-6, Sat 11-4
Tel (408) 275 8696
Fax (408) 297 8696

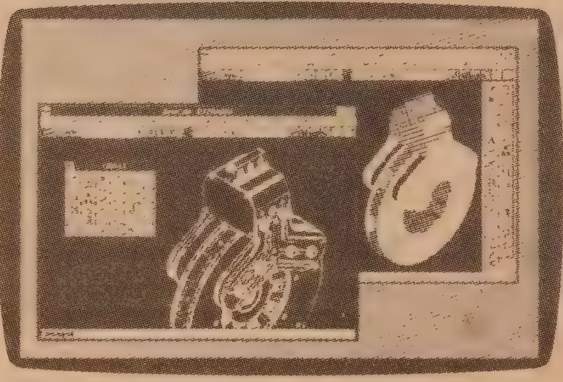
CALL FOR EXPORT INQUIRIES

Computown

Multimedia

AutoCAD® FOR WINDOWS

New AutoCAD® for Windows® makes you see double.



That's because you can work on two drawings at once (while a third plots in the background). You can do everything the DOS 386 version can do. And a lot more. Copy and paste between sessions. Link drawings to proposals and spreadsheets. Make revisions while inside secondary applications. It's as easy as picking up the phone.

Autodesk.
Authorized Dealer

3D Studio® RELEASE 2

Animation Worthy of the Network

With 3D Studio® Release 2, it's easy to produce high-resolution, true-color 3D still images and animations that meet the rigorous standards of MTV® and other major networks. 3D Studio software delivers broadcast-quality 3D graphics for a fraction of the price of comparable 3D graphics for a fraction of the price of comparable 3D modeling, rendering and animation software. Call us today to schedule your demonstration.

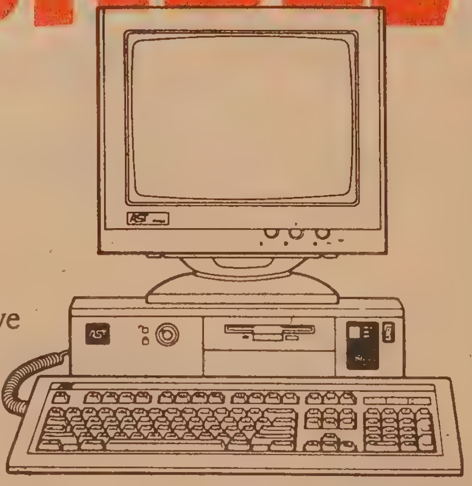
Autodesk.
Authorized Dealer

Desktop Systems

$1599

GREAT PRICE!

AST™ Bravo® BUNDLE



- 486 / 33 MHz
- 4 MB RAM
- 120 MB Hard Drive
- 1 MB video RAM
- SVG Monitor
- Dos®, Windows and mouse

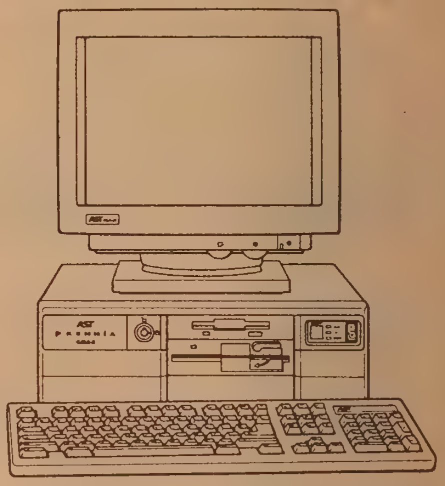
ON DEMO

EISA New Reduced Price

AST™ Premmia®

Premmia. High Performance Desktop Computers

Premmia systems oftter the most innovative and comprehensive array of state-of-the-art technology available today. These feautres include a high performance LocalLink™ graphics subsystem, advanced processor and memory cache designs, CPU upgradeability, AST FlashBIOS, stringent security, personality modules and EISA I/O bus design.



AST, AST logo and Premium registered trademarks of AST Research, Inc.

AST®
Authorized System Reseller

San Francisco
CORPORATE SALES ONLY
760 Market Street, 2nd Floor
Mon-Fri 8-6, Sat & Sun 10-4
Tel (415) 956 1777
Fax (415) 989 8696

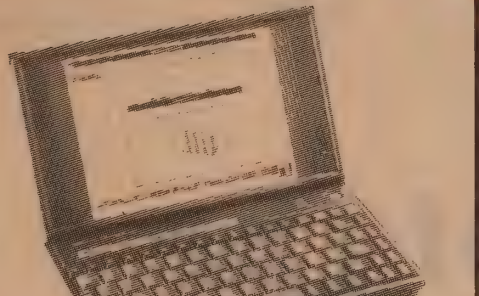
San Francisco
RETAIL SALES ONLY
756 Market Street
Mon-Fri 9-7, Sat & Sun 10-4
Tel (415) 956 8696
Fax (415) 956 5548

Mountain View
2444-A Old Middlefield Way
Mon-Fri 8-6, Sat 11-4
Tel (415) 962 8696
Fax (415) 969 8696

Introducing the HP Omnibook 300 Superportable PC

NEW

HP Omnibook 300



Less than 3 pounds with Microsoft® Windows™, Microsoft Word, and Microsoft Excel built into ROM. A pop-up mouse ready at the touch of a button. Built in, automatic data compression that doubles your disk capacity. Available in 2 versions, 40 MB hard disk storage or 10 MB flash disk storage.

FINANCING AVAILABLE

NO MONEY DOWN FOR 90 DAYS*

INTEREST FREE*

Please Call Store For More Details

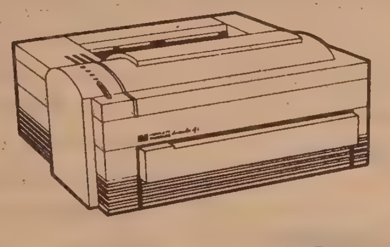
Computown's World of HP

The Affordable HP LaserJet 4L Printer From Computown. Any Similarity To More Expensive Laser Printers Is Strictly Intentional.

NEW

The HP LaserJet 4L

- Lowest priced HP LaserJet printer .... EVER!
- Instant on fuser with intelligent On/Off saves energy and money
- EconoMode cuts your toner costs up to 50%
- 26 built in scalable typefaces
- 1 MB standard memory
- 300 dpi laser printer with HP Resolution Enhancement technology
- Small 14" x 14.5" footprint



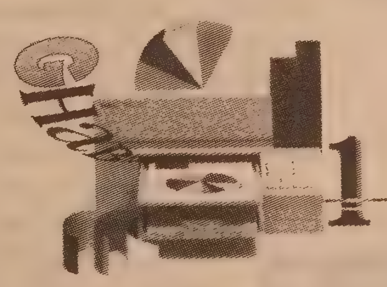
HEWLETT PACKARD
Authorized Dealer

Introducing the HP DeskJet 1200C/1200C PostScript® Color Printer

NEW

HP DeskJet 1200C/1200C/PS

- 600 x 300 dpi black text with Resolution Enhancement Technology
- 300 dpi full color printing
- 45 internal scalable typefaces for Windows and MS-DOS®, 35 additional typefaces for PostScript™ printing
- Color PCL5 language and a slot for HP LaserJet typeface cartridges
- 2 MB memory expandable to 26 MB



HP DESKJET PORTABLE ACCESSORIES

C3005A	Cut sheet feeder
C3003A	Rechargeable battery
C3050A	Carrying case
51608A	Black Print Cartridge

INKJET ACCESSORIES

51526A	High capacity black print cartridge
51625A	Color print cartridge
51630Y	CX-JetSeries cut sheet paper
51636H	LX-JetSeries glossy paper

POSTSCRIPT CARTRIDGES & MEMORY UPGRADES

33439P	Adobe® PostScript® Printer Cartridge *(For IIP, IIP+ & III)*
C32080A	PostScript® SIMM *(For HP LaserJet 4)*
33439P	Adobe® PostScript® Level 2 SIMM *(For LaserJet 4Si)*

LASERJET ACCESSORIES

92275A	Toner Imaging cartridge *(For IIP, IIP+ & IIIP)*
92298A	Toner cartridge *(For LaserJet 4 & 4M)*
92295A	Toner cartridge *(For LaserJet II & III)*
92291A	Microfine toner cartridge *(For LaserJet 4Si MX)*

LASERJET ACCESSORIES

33472A	Optional Lower Cassette Tray *(For IIP, IIP+ & IIIP)*
C2083A	Letter, executive, and A4 multi-size paper tray and paper tray assembly *(For LaserJet 4)*
C2083B	Legal, letter, executive, and A4 multi-size paper tray and paper tray assembly *(For LaserJet 4)*

Please Call For Other HP Products

HP ACCESSORIES

Pleasant Hill
1525 Contra Costa Blvd.
Mon-Fri 9-6, Sat 10-4
Tel (510) 682 8696
Fax (510) 689 8696

San Jose
780 Montague Expressway/O'Toole
Mon-Fri 8-6, Sat 11-4
Tel (408) 275 8696
Fax (408) 297 8696

CALL FOR EXPORT INQUIRIES

Computown

The Mood Of The Manual:

A Short Essay In Hermeneutics

BY BENNETT FALK

UNIX

Telnet is one of the elemental services (the others are ftp, finger, and, maybe, mail) shaping everyone's idea of how UNIX computers participate in networks. Telnet is a client/server application that creates a virtual terminal interface so a user on one computer can have an interactive session on another computer.

Most of the time, telnet does its work unobtrusively. You type things on your keyboard. The telnet client you're running on your local computer ships them over a network connection of some kind to a telnet server on a remote computer. The server is running a program on your behalf, and it passes your typing through to that program. If the program responds with any output, the server packages up the output and passes it back to the telnet client program, and the telnet client delivers the output to your screen, completing the illusion that you're working on a terminal attached directly to the remote computer.

> **On one hand, it is very tempting to declare that a manual written in the subjunctive is just not to be trusted. On the other hand, surely the authors should be given some credit for being honest, and who can we trust if not someone who is honest?**

For most of us, that's about all there is to telnet. We know there's a telnet protocol, we know the virtual terminal telnet offers can read input a character at a time or a line at a time, and we know that there's an escape character that can be used to start giving commands directly to telnet. Whatever else we might need to know, we trust the manual entry for telnet will tell us.

For a program that is largely transparent, telnet has a surprisingly long article in the UNIX online manual. The article describes commands to manage telnet's network connection, commands to control the behavior of the virtual terminal that telnet creates, and a set of commands to send messages coded in the telnet protocol from the client to the server.

Of course, the commands themselves are not the point. The point is the way they're described in the manual.

RTFM, OR, THE FUN BEGINS

The commands to send telnet protocol messages to the server are written largely in the subjunctive mood. ("Mood" is one of the many grammatical qualities of verbs. We bark out commands in the imperative mood, utter statements of fact in the indicative mood, and express doubt and possibility with the subjunctive mood.) The entries in the telnet manual page are filled with accounts of what might happen, what should happen, what ought to happen when these commands are used.

The effect of the "send brk" command, for example, is described this way: "Send the TELNET BRK (Break) sequence, which may have significance to the remote system." Similarly the telnet Interrupt Process signal "should" cause the server to abort whatever process it is currently running. The manual also describes a command to send an "ayt" (Are You There) signal "to which the remote system may or may not choose to respond." After a few more such descriptions, the manual lapses from the subjunctive into outright pessimism: the command "send ga" sends the telnet "ga" (Go Ahead) signal "which likely has no significance to the remote system."

If you've spent any time at all encouraging people to read the manual, these are shocking things to read. We all know to expect that some documentation will be poorly written. Undoubtedly there are software manuals that are totally incomprehensible. But bad writing is easy to spot, and when we encounter it, we simply adjust our expectations of how helpful the manual will be.

Ambivalence, however, is something else altogether: it looks like normal documentation, but we can't tell whether the manual is helpful or not.

On one hand, it is very tempting to declare that a manual written in the subjunctive is just not to be trusted. On the other hand, surely the authors should be given some credit for being honest, and who can we trust if not someone who is honest? A manual that at least acknowledges the possibility that things may not always work must be better than one that obscures this fact. What, the first hand replies indignantly, is the purpose of documentation in the first place? We go to the manual to find out what works and, when something fails, why it failed and what we can do about it. It's not enough for software documentation to be honest, it must also be informative.

The other hand accuses the first hand of being a closet determinist, the first charges that the other is a "lamo," and each threatens to take up arms, all because some telnet subcommands are described in the subjunctive. Who would ever have thought that reading the manual could be so much fun?

ACHIEVING CLARITY: MODEST SUGGESTIONS

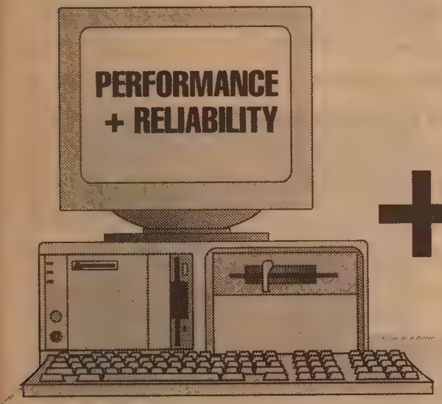
What is missing from the telnet manual? What else do we need to know to make sense of features that might or might not have any

Copyright © 1993 by Bennett Falk. All rights reserved. *Bennett Falk's book, The Internet Roadmap, will be published by Sybex Books real soon now.*

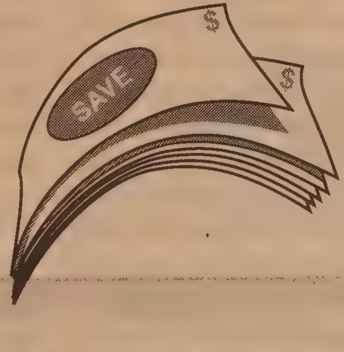
Libre
Service Computer Inc.

+

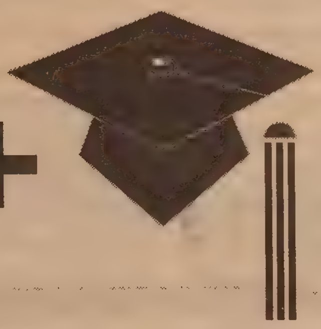
=



+



+



NEW SERVICE PROGRAMS & UPGRADE SPECIAL

- **On-site Warranty**
- **Repair & Upgrade Service**
- **Used Computer Trade-in Program**
- **Network Consultion & Installation**
- **We Buy/Sell Used Monitors, Please Call.**
- **Special Sale:**
  Upgrade Your 286 to 386/40SX
  128K Cache w/4MB for $280.
  Labor Include. Motherboard
  Upgradable to 486

Local BUS System Kit

486DX-33Mhz 128K Cache;
VESA Standard 4 MB;
Mini-tower;
IDE 2S, 1P, 1G;
1.2 & 1.44 floppy drives;
170 MB HD;
Local BUS video card;
14" SVGA monitor;
101 KB;

Upgrade to
486DX2-66 Mhz

Monthly Sale

$1,149 $1399

IBM® Inside/MIPS 19.3

486-SLC 2-66 Mhz
16k internal cache CPU ;
On board math co-processor;
2 Local bus VESA Slot;
4 MB; Mini tower;
VLIDE 2S, 1P, 1G;
1.2 & 1.44 floppy drives;
170 MB hard drives;
Local bus video card / 1 MB;
14" SVGA monitor 0.28;
101 keyboard.
3 yrs warranty on system board

New

$1,349

IBM ® is registered trade mark of International Business Mchine Incorporation.

Libre External Parrellel Line

Best Price

- Portable Easy Floppy • $ 169
  No internal card; no jumper;
  attach to parallel print port;
  extra printer port included;
  360K/1.2MB or 720K/1.44MB
- Mobile Disk
  Quick & easy way to add
  storage capacity & back-up;
  also good for data security

120 MB	$399
200 MB	$499
340 MB	$599

FREMONT
48860 Milmont Drive, 102C
Fremont, CA 94538
510-438-0402
Fax: 510-438-0489
Tue-Sat 10 am to 6 pm

CAPITOLA
1220 41st Avenue, Unit G
Capitola, CA 95010
408-479-7319
Fax: 408-479-4316

SAN FRANCISCO
(NEW LOCATION)
1569 Sloat Blvd. Suite 300
(Second Floor of Crown Book)
San Franciaco, CA 94132
415-731-8966
Fax: 731-8967
Tue-Sun 10 am to 6 pm

SAN MATEO
2505 S. El Camino Real
San Mateo, CA 94403
(Cross Street: 25th Ave)
415-578-1614
Fax: 415-578-0268

SACRAMENTO
5112 Madison Ave.
Sacramento, CA 95841
916-349-8200
Fax: 916-349-8299
Tue-Sat 10 am to 6 pm

Motherboard with CPU

386SX-33Mhz	$80
386DX-40Mhz (upgradable to 486)	$145
486DX-33Mhz 128K	$380
486DX-40Mhz 256K	$430
486DX-50Mhz 128K	$540
486DX-33VL 128K	$390
486SLC2-66VL 128K	$390
386/486 128k cache upgradable motherboard w/o CPU	$ 90

Hard Drives & Floppy Drives

40 MB HD (IDE)	$120
120 MB HD (IDE)	$180
170 MB HD (IDE)	$220
250 MB HD (IDE)	$260
340 MB HD (IDE)	$330
1.2 MB floppy drive	$ 48
1.44 MB floppy drive	$ 42

System Kits

With: 1MB; IDE HD/FD controller; 2 serial, 1 parallel and 1 game ports; 1.2 or 1.44 floppy drive; 101 KB; mini-tower or desktop case with power supply.

386SX-33Mhz	$265
386DX-40Mhz (Upgradable to 486)	$320
486DX-33Mhz 128K	$595
486DX-40Mhz 256K	$625
486DX-50Mhz 128K	$745
486DX2-66Mhz 128K	$845

Video Options:

Mono graphic card	$15
SVGA card (1280X1024)	$50
Window Accelerator Card	$55
SVGA VL /1MB	$90
SVGA monitor .39mm	$215
SVGA monitor .28mm	$250
SVGA monitor non-int	$270
15" SVGA .28mm	$395
15" SVGA MP Control	$435

486DX33 Multi-media System

4 MB; Medium Tower; 1.2 & 1.44 FD; 2S, 1P, 1G Port; 170 MB HD; SVGA Card(1MB); 14" SVGA monitor 0.28; 101 KB; CD Rom; & Sound Commander Speaker ••• **$1,399**

Multi-media Kits

Mitsumi CD Rom	$185
Mitsumi CD Rom+ 4 Titles + SoundCommander	$320

Others

IDE controller w/ IO	$15
VLIDE-I/O	$39
Serial mouse	$12
2400 baud modem	$30
2400/9600 S/R Fax modem	$50
101 keyboard	$20
Mini-tower case	$55
Medium tower case	$75
Panasonic KXP1124i prntr	$299
250MB tape back up	$185
Sound Commender Pro	$ 99

No Down Financing Available

•Apply for the Libre-Credit Card (with no application fee)

Advertised prices based on 3% cash purchase discount. Price subject to change without notice. Check for our everyday low price and other new products.

effect? With the benefit of perpetually golden hindsight, we can say with some confidence that we need to know roughly when and why telnet commands will have indeterminate results. The telnet article is full of uninterpreted "shoulds," "may or may nots," and "likelys." Some way of talking about indeterminate behavior in general would go a long way to restore confidence in the documentation if not the software itself.

For example, the telnet manual is much easier to read if you know ahead of time that the name "telnet" can be used to refer to the telnet client program, the server it connects to, or the protocol that is used by telnet clients and servers to communicate. The article about telnet in the manual is primarily concerned with the client program, but some commentary about both the server and the protocol (neither of which has its own manual entry) inevitably leaks in. If you know ahead of time that the manual may comment on more than the client program alone, you can at least be prepared to make some distinctions based on context.

Because telnet is a client/server application, a certain degree of unpredictability is simply built in. Most of the other articles in the UNIX manual describe self-contained programs whose behavior does not depend on anything outside the program itself. The behavior of the telnet client program, however, will always depend in part on the server to which it connects. Yes, telnet clients connect to telnet servers, but there are lots of different versions of telnet servers in circulation. Over its lifetime, a telnet client will be used to connect to many different server versions on many different computer architectures, and the different versions will not all behave in the same way. These are things out of the control of both the documentation writer and the hapless user, but some allusion to version dependencies would have been welcome nonetheless.

Finally, there is the question of how to document a user interface to something that users don't ordinarily interact with. The telnet protocol is a language used for the dialog between telnet clients and servers. Ordinarily, this is not a dialog in which users need to interfere. In spite of this, the telnet "send" command provides a user interface to some of the signals supported by the protocol. This feature has all the trappings of Catch 22: for the "send" command to work, it must send a message that the server expects, but short of sending a message there's no way to find out whether the server is listening at all or what kind of messages it might be listening for. A few introductory remarks in the manual about this paradox would have been helpful.

The encounter with the subjunctive passages in the telnet documentation exposes an assumption we make about software documentation in general. We expect the manual to tell us not just how to use the software, but how to use the manual as well. The manual is supposed to be a guide to its own interpretation. When it fails to provide the guidance we expect, we have nothing but our own experience to fall back on to interpret the documentation. Unfortunately the people who are experienced enough to interpret the documentation probably don't have much occasion to read it. It's a world full of paradox. ■

RAMCOMP
THE COMPUTER PEOPLE...
690 Market Street-Suite 515 • San Francisco, CA • 94104

RAMCOMP VIDEO BLASTER $1650.00
• 486DX2-50MHz VESA VL BUS
• FULL TOWER CASE
• 1.44MB &1.2MB FLOPPIES
• GENOA VESA VL BUS VIDEO
• 14" MONITOR .28 DOT (1024X768)
• 200MB MAXTOR HARD DRIVE
• 101 ENHANCED KEYBOARD
• 1 PARALLEL / 2 SERIAL PORTS
FOR 486DX2-66MHZ ADD $100.00

Authorized AST NEC COMPAQ HEWLETT PACKARD ALR SAMSUNG DELL Panasonic

SCO THE SANTA CRUZ OPERATION Authorized Dealer
SCO UNIX OS (2 USER) $495
SCO UNIX OS (3+) $895
SCO UNIX Dev. Sys. $895
SCO X Window Complete $495
SCO X Windows RTS $295
SCO X Window Dev. $295
SCO VP/ix Unltd (3+) $650
SCO MPX $695
SCO Portfolio $495
SCO TCP/IP Dev. Sys. $350
SCO TCP/IP RTS Unltd. $495
SCO NFS $495
SCO ODT Personal Sys $995
SCO ODT Server Upgrade $1188
SCO ODT Dev. Sys. $1295

COMPUTERS
IBM, APPLE, COMPAQ AST, SAMSUNG, ALR, TOSHIBA, NEC, PANASONIC AND COMPATIBLES.
Call for Best Price & Configuration
Any Computer • Any Configuration

PLOTTERS
CalComp: 1023 A-D $3675
1025 A-E $4775
1044 GT AE $9050
Houstin: Dmp-61 .... $2975
Dmp-62 .... $3495
IOLINE, ROLAND, HP .... BEST PRICE CALL

LASER PRINTERS
NEC, HP, PANASONIC, TOSHIBA, QMS, QUME, APPLE
NEC Silentwriter .... BEST PRICE

MONITORS
Hitachi 19" Accuvue .... Call
Nanao 9070S .... Call
NEC 5D 19" .... Call
Nanao 9070U .... Call
NEC 4D .... Call
Mitsubishi (All Models) .... Call
We Carry All Other Models
Call For Lowest Prices

SOFTWARE
Call For Any Software

MEMORY
Call For Latest Prices On SIMMS, SIPPS, DIPPS, DRAMS, MATH CO.
Repair & upgrading, revamping on site for all computers
Minimum Charges

Novell Authorized Reseller
NETWORKING SOLUTIONS
In Local Area & Wide Area Networks
Novell Certified NetWare Engineer

NEW INSTALLATIONS
Free evaluation of your needs & site inspection.
Turnkey jobs including installation of cabling system.
Ask for quotes.

UPGRADING THE EXISTING INSTALLATION
Adding storage to the server, changing the network architecture or topology. Installing a later version of Netware. (Free back up and restoration of data in any upgrade)

EXPANDING THE EXISTING NETWORK
Adding a server, adding new segments using repeaters, bridges & routers etc. Use the knowledge of our Netware engineers to route your bytes to their destination through the safest and most cost effective path without compromising speed and performance.

Hours: Monday-Friday 9am-6pm • Sat 12-5pm
Tel: 415-986-5125 Fax: 415-986-3677

The Printer Works Introduces the SP-29000

This PostScript Laser Printer is Absolutely an Incredible Value!

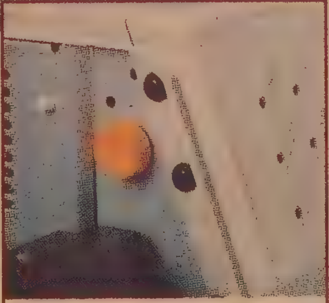
Only $677
With Toner

Our price for this 6 ppm PostScript printer is about the same as the lowest priced 4 ppm printer without PostScript!

30 DAY MONEY BACK GUARANTEE

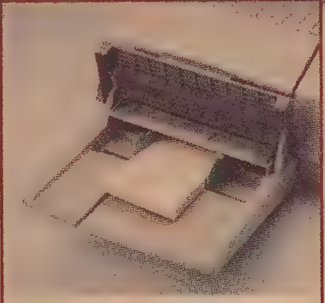
The Printer Works has been bringing you the best deals on PostScript printers for years. (Remember our "PostScript for Peanuts" campaign that offered the JetScript-CX for only $995 when most other 8ppm PostScript printers were priced at over $2,000?) The new SP-29000 printer is our best deal ever! It costs less and offers even more—just look at all the important features you get for only $677:

- PC and Macintosh compatible—the SP-29000 can connect to both simultaneously!
- High-speed, 32-bit AMD RISC processor for fast formatting of complex PostScript jobs
- Reliable 6 page per minute engine—the same model used in more expensive printers!
- MicroSoft TrueImage PostScript-compatible interpreter
- Great for all Windows and Macintosh applications
- 35 Scalable TrueType fonts
- AppleTalk, Centronics Parallel, and RS-232 Serial Interfaces



Economy Toner Dial

Now it's easy to make your toner cartridge last longer, and still get good printouts! Simply turn down the print intensity dial while printing drafts, and turn it up again for the deep rich blacks you want on your final output!



High-Capacity Universal Paper Tray

The SP-29000 lets you print letterhead and envelopes without having to stop and switch cumbersome paper trays! One tray does it all! The high-capacity universal paper tray is fully adjustable for up to 250 sheets of letter, legal, or executive size paper. It can also be used for up to 25 envelopes.

All-In-One Toner Cartridge

This high-capacity toner cartridge contains a long-life super drum and enough toner to print 8000 pages before refilling! (That's 2-3 times more than other printers!) The toner is the latest micro-fine variety which produces super rich black areas and very sharp fine lines. These cartridges are readily available in the market (and from us!)

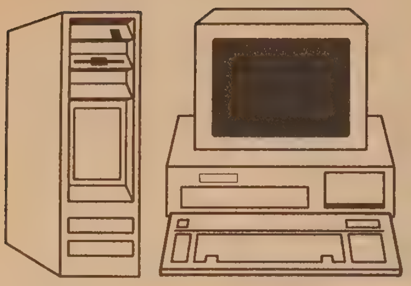
PostScript is essential for compatibility with professional desktop publishing and graphics applications. It's also easier to use for general business applications. If you've been shopping for a laser printer, you know that PostScript printers generally cost twice as much as non-PostScript printers. Our price for this PostScript printer is about the same as the lowest priced 4 ppm printers without PostScript. So don't risk being stuck without PostScript when you can now get it for the same price! Like every product we sell, this printer is backed by our 1 Year Parts and Labor Warranty. Unlimited free technical support is available from the friendly experts in The Printer Works' technical support department. If you're not completely satisfied for any reason, you can return it for a full refund within 30 days. No hassle, no questions asked! Quantities are limited—order yours today!

ORDER TOLL FREE
1-800-225-6116

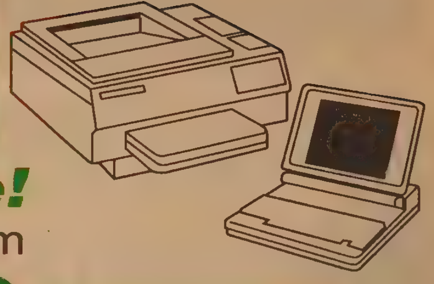
the PRINTER WORKS
3481 Arden Road, Hayward, CA 94545

30 DAY MONEY BACK GUARANTEE

DISCOVER VISA AMERICAN EXPRESS



CompuMart



Quality, Service and Value!

Experience it in our Ultra Modern Showroom

COMPLETE PC SYSTEMS BY OPTIGOLD

ALL SYSTEMS ARE FCC CLASS B,
14" SVGA MONITOR INCLUDED

486DX-33/4M/120MB HD	$1,235
486DX2-50/4M/120MB HD	$1,335
486DX-50/4M/120MB HD	$1,370
486DX2-66/4M/120MB HD	$1,470
386SX-33/2M/80MB HD	$ 745
386DX-40/4M/80MB HD	$ 950
386SX-25/4M/80MB HD	$1,075

VLB or EISA motherboards are available by AMI, Micronics, NICE, AIR, Orchid

NOTEBOOK PC

CHAPLET	386SX-33/2MB/60MB HD	$ 950
AVANTI	486SL-25/4MB/120MB HD W/ fax modem	$1,750
PETRA	486DX-33/4MB/120MB HD	$1,850
TOSHIBA	4600C/4MB/200MB HD Active Color	$4,375
	1900/4MB/120MB HD	$1,795
IBM	THINKPAD 720C	$4,575

DRIVES

Conner	120MB IDE/SCSI	$174
	170MB IDE	$195
	200MB SCSI	$219
	250MB IDE	$269
Fujitsu	540MB IDE/ SCSI	$699
Quantum	127MB IDE	$185
	240MB IDE	$265
Maxtor	213MB IDE	$235
	245MB IDE	$249
	340MB IDE	$339
	340MB SCSI	$419
	1.7GB SCSI	$1,239
WD	120MB IDE	$199
	212MB IDE	$229
	340MB IDE	$339

MONITORS

ADI		14" Microscan 3G NI Flat Digital	$ 369
KFC		17" .26 1280X1024 NI Flat Digital	$ 789
MGC		14" .28 1280x1024 NI XGA	$ 309
		15" .28 1280x1024 NI Flat XGA	$ 405
MAG	MX15F	15" .28 NI Flat	$ 539
	MX17F	17" .28 NI Flat	$ 979
NANAO	F5501	17" .28 1280X1024	$1079
NEC	3FGe	15" .28 NI Flat	$ 599
	4FG	15" .28 NI Flat	$ 689
	4FGe	15" .28 NI Flat	$ 739
	5FGe	17" .28 NI Flat	$1099
	6FG	20" .28 NI Flat	$2289
Viewsonic	VSC6E	14" .28 NI	$ 324
	VSC15	15" .28 NI	$ 559
	VSC7	17" .28 NI	$ 949
	VSC17	17" .28 NI	$1085
	VSC20	20" .31 NI	$1769

VIDEO BOARDS

ATI	Graphic Ultra 1MB	$195
	Graphic Ultra + 1MB/ 2MB	$219/ $259
	Graphic Ultra Pro 2MB	$339
	Graphic Ultra Pro VLB 1MB/2MB	$289/ $349
Diamond	SpeedStar 24X 1MB	$159
	SpeedStar Pro VLB/ISA 1MB	$140
	Stealth 24 ISA/VLB 1MB	$175
	Stealth Pro VLB 1MB/ 2MB	$255/ $355
	Viper 2MB VLB	$389
Orchid	Fahrenheit 1MB	$159
	Fahrenheit VA 1MB	$169
	Fahrenheit VLB 1MB	$159
	Fahrenheit VA/VLB 1MB	$219
Genoa	8500VL	$125
Tseng	ET4000VLB	$125

TAPE BACK-UP

Colorado	DJ-10	120MB Int	$155
	DJ-20	250MB Int	$184
	QFA 700	700MB	$599
	Trakker	120MB/250MB Printer port	$325/389
	Powertape	2GB SCSI Internal/External	$959/1155

MULTIMEDIA

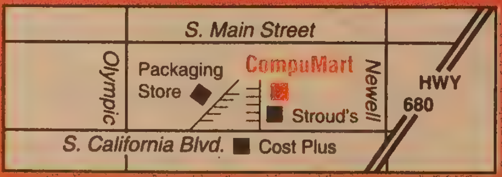
Creative Lab	Sound Blaster	$ 81
	Sound Blaster Pro Deluxe	$129
	Sound Blaster 16	$169
	Sound Blaster 16 ASP	$229
	Video Blaster	$315
	Edutaiment 16 Upgrade Kit	$538
	Discovery 16 Upgrade Kit	$395
Media Vision	Pro Audio Spectrum 16	$165
	Pro Audio Studio 16	$225
	Pro Movie Spectrum	$285
Misumi	350MS CD-ROM w/ Kit	$189
NEC	CDR-38 Portable CD-ROM	$439
	CDR-84-1 Internal CD-ROM	$419
	CDR-74-1 External CD-ROM	$549
	CD Express Kit w/ CDR-27	$359
Sony	CDU31A Internal CD-ROM	$225
	CDU31A External CD-ROM	$259
Texal	DM-3024 Internal CD-ROM	$349
	DM-5024 External CD-ROM	$469
Toshiba	3401B 200MS Internal CD-ROM	$429
	3401E 200MS External CD-ROM	$545
New Media	WatchIt TV	$229
Microsoft	Windows Sound System	$199
	Video for Windows	$139
Panasonic	CD-ROM w/ Kit	$195

CONTROLLERS

Always	IN 2000		$179
Adaptec	1522/1522K	SCSI	$ 79/ $159
	1542C/1542CK	SCSI	$219/ $247
	1742A/1742AK	EISA/SCSI	$349/ $419
Buslogic	BT445S	VLB/SCSI	$289
	BTB747AK	EISA/FAST SCSI	$389
DTC	2270VL	VLB/IDE	$ 95
Promise	DC200	IDE CACHE	$129
	DC-4030VL	VLB/IDE CACHE	$169
Ultrastor	14F	SCSI	$189
	24F	EISA/ SCSI	$359
	34F	VESA/ SCSI	$274

SCANNERS

Caera	Typist Plus Graphics	$ 279
HP	ScanJet IIC	$1299
Logitech	Scanman 32	$ 105
	Scanman 256 w/ Catchword Pro	$ 275
	Scanman Color Hand Scanner	$ 539
Microtek	Scanmaker II Color 600DPI	$ 859
Relisys	Flatbed Color 600DPI w/ OCR	$ 799



All prices are subject to change without notice.

NETWORK

3COM	509 Etherlink III TP/ Coax	$119
Artisoft	Lantastic V5.0 AE-2 Startkit	$459
	Lantastic V4.1 AE-3 Startkit	$395
	Lantastic Noderunner 2000/C,T	$169
Intel	Etherexpress 16 TP/ Coax	$105
Novell	Netware Lite w/ NE2100 Adapter	$129
	Netware 3.11 5 Users	$585
	Netware 3.11 10 Users	$1145
	Netware 3.11 20 Users	$1595
	Netware 3.11 50 Users	$2325
SMC	Elite Plus 16 TP/ Coax	$ 125

PRINTERS

Citizen	GSX-230/ GSX-240	$255/$ 305
	PN-48	$ 265
Cannon	BJ-10EX/ BJ-20	$269/$ 319
	BJ-200	$ 349
Panasonic	KX-P2180	$ 169
	KX-P2123/ KX-P2124	$229/$ 308
HP	Deskjet 500/ 500C/ 550C	CALL
LASER PRINTER		
HP	Laserjet 4L/4/4M	CALL
Okidata	OL400	$ 589
Epson	ActionLaser 1000/1500	$669/$ 699
	EPL-8000	$ 899
Microtek	TrueLaser 6PPM 2 MB 35 Fonts	$ 999
Panasonic	KX-P4410/ KX-P4430	$569/$ 699

SOFTWARE

Aldus	Pagemaker for Windows	$485
Borland	Borland C++ 3.1 & Application Frame	$485
	Paradox for Windows	$129
	Dbase IV	$459
	Quattro for Windows	$150
Corel	Corel Draw & CD for Windows	$365
Lotus	1-2-3 for Windows	$299
	AmiPro for Windows	$265
	Freelance for Windows	$335
Micrografx	Picture Publisher	$199
	Graphics Works	$ 99
Microsoft	Excel for Windows	$299
	Office for Windows	$375
	Word for Windows	$299
	Windows 3.1 Upgrade	$ 45
	Workgroup	$ 67
WordPerfect	Wordperfect 5.2 for Windows	$275
	Wordperfect 5.2 for Win Upgrade	$ 39

MODEMS

Hayes	Acura 14.4 Fax Modem Int	$239
	Acura 14.4 Modem Ext	$269
Intel	14.4 Fax Modem Int /Ext	$225/ $245
Practical P	PM14.4Fax Modem Int/Ext	$209/ $225
	PM14.4 Pocket Fax Modem	$354
US Robotics	Sporter 14.4 Modem Int/Ext	$179/ $195
	Sporter 14.4 Fax Modem Int/Ext	$195/ $225
Zoom	14.4 Modem Int/Mdoem Fax Int	$209/ $235

(510) 946-1234

1320 S. California Blvd., Walnut Creek (Across from Cost Plus, next to Stroud's)

Monday-Friday: 9:30-8:00, Saturday: 10:00-7:00, Sunday: 12:00-6:00

Over 5,000 Software, Printers, Monitors, CD-ROM, Network Products, Computer Books, Magazines In Stock.

Telework Think Tank

New Institute Collecting The Hard Data To Help Evaluate And Better Understand Telework

BY ROBERT MOSKOWITZ

Founded in 1990 by Charles Grantham and Larry Nichols, the Institute for the Study of Distributed Work is a research facility, think tank, and consulting company based in Oakland, CA, and dedicated to supporting the advance of various forms of telework into the 21st Century. Grantham and Nichols began as social scientists and organizational development consultants for major corporations. But over the years, they grew tired of the relative scarcity of accurate research information on topics related to telework, and established the Institute as a mechanism for gathering and disseminating hard data on their own.

> "We've found that supervisors tend to measure a telecommuter's productivity in terms of the quantity of output, while the telecommuters themselves tend to focus on the quality of their output rather than the quantity."
>
> —Charles Grantham, Institute for the Study of Distributed Work

Ever since, the Institute has kept busy performing and replicating studies and gathering data that will satisfy the most hard-nosed economist. "There's too much anecdotal data being thrown around," says Grantham. "It's valuable, but it's only the first step. I don't know about anyone else, but I for one don't want to set national labor policy for telecommuting—or anything else—based on anecdotes and hearsay."

For example, Grantham disputes the accuracy of some estimates of how many people are active telecommuters. "It's very difficult to track telecommuters through data that originates with employers," he points out, "because so many of these people are what I call 'guerrilla telecommuters'—employees just telecommuting informally without their employer's human resource department knowing anything about the details of the arrangements, or in some cases even that the telecommuting arrangements exist."

Grantham also warns that figures cited for telecommuting-related increases in productivity are not always what they seem. "You have to be careful about how you define it," he says. "We've found that supervisors tend to measure a telecommuter's productivity in terms of the quantity of output, while the telecommuters themselves tend to focus on the quality of their output rather than the quantity."

Grantham's latest numbers show that about 3% of the white collar workforce in California are already telecommuters, and that this proportion may go to about 12% or even 15% within the next seven years. "Given the speed at which we're moving to a global economy," Grantham muses, "it's only natural that people with globally useful skills will embrace telecommuting. In fact, our research shows that people are likely to move from one community to another in search of a better place from which to telecommute."

Grantham has a vision of a global economy peopled by what he calls "untethered workers," employees who use laptop computers and portable phones to stay in touch with the office and their colleagues from their home, a park bench, or even the beach. In his view, we are rapidly evolving toward a "digital workplace" in which members of a workplace team can collaborate effectively from virtually any place in the world.

In today's world, however, the Institute for the Study of Distributed Work is still building the case for such a transformation. The highly regarded Institute regularly fields a squad of eager graduate students and seasoned researchers who do extensive interviewing and digging through existing data to find reliable information on telecommuting and other forms of telework. These data are the basis for the Institute's steady stream of technical publications and strategic presentations to such international audiences as the Global Village International Symposium (Vienna, Austria); Senior Managers from Beijing, China; the Silicon Valley Advanced Management Training Center (Fremont, CA); the Association for Management of Organizational Design (Philadelphia, PA); and the Bay Area Telecommuting Conference.

Grantham and his researchers are presently organizing a San Francisco-area conference for September 22, 1993, at which they plan to reveal the results of a major study of how telecommuting impacts both families and the communities in which telecommuters work. This AT&T-supported study was conducted in California's Contra Costa County over a period of more than eight months. Although at this early date Grantham will not leak any specific data or findings of the study, he promises "the results are very positive in terms of showing reduced stress and improved quality of life" for the telecommuters.

But the Institute studies more than just the favorable aspects of telecommuting. Grantham and his colleagues are equally concerned with what he terms the "shadow" side of this work phenomenon. These adverse psychological effects of telecommuting include worker isolation, jealousy on the part of non-teleworkers, and various unresolved legal issues, such as

Copyright © 1993 by Robert Moskowitz. All rights reserved. *Robert Moskowitz is a business consultant based in Woodland Hills, CA, who writes frequently on productivity, office automation, and technology.*

taxes—since under certain points of view it's possible for the "benefits" of telecommuting to be considered taxable income on which the employee may ultimately owe the IRS its share. Other concerns that will require more attention include health coverage, disability insurance, and even workers compensation.

"The first time a telecommuter sues his or her employer for an on-the-job injury," says Grantham, "you're going to see a massive reaction against the kind of indecision and waffling we've had from legislatures on these issues."

But Grantham feels these relatively technical, legal issues can be resolved without too much trouble, and he's hopeful they will be within the next few years. The reason? His research shows that large numbers of highly skilled professionals are highly motivated to become telecommuters. Since large-scale employers cannot prudently embrace telecommuting for meaningful numbers of workers until many of these legal and technical issues are settled, the pressure to resolve these matters is already building up to irresistible dimensions. "A hopeful sign that no one can deny," says Grantham, "is that the impetus for change toward telecommuting is coming up from the ranks rather than down from top management."

The latest numbers show that about 3% of the white collar workforce in California are already telecommuters, and that this proportion may go to about 12% or even 15% within the next seven years.

In its first three years of operation, the Institute has already compiled evidence to demonstrate a whole range of benefits that flow from telecommuting to the workers, their employers, and the community. Briefly, this list includes such items as:

- Quantifiable cost savings for each and every telecommuter—For example, one-time training costs average about $50 per telecommuter. Communication costs average about $50 per month per telecommuter. However, by staying home to work one day per week, a telecommuter who would normally work in a 10' x 10' cubicle frees up from $500 to $1000 worth of office space and associated overhead during the course of a year. In addition, a 10% productivity gain by a telecommuter earning $30,000 per year is worth $3000 per year. Clearly, the numbers weigh heavily in favor of telecommuting.
- Steadily decreasing needs for office space as telecommuting becomes an established mode of working—Organizations that are crowded for space today can reduce this burden tomorrow by authorizing people to start telecommuting. As a practical matter, many organizations that are already telecommuting do not benefit much from having their offices relatively thinly populated, because existing lease or ownership arrangements minimize the bottom-line impact of this new trend. However, as firms build recognition of telecommuting into their plans for office space in the future, significant cost savings will be realized.
- Closer and stronger ties between a telecommuting worker and his or her family—The telecommuter immediately gains additional time to spend at home and in the community, simply by eliminating thirty to sixty minutes per day, or more, in commuting time. Regardless of how the telecommuter uses this time, they almost universally perceive it to be an important benefit.
- Easier entry into the workforce by disabled workers and single parents—Telecommuting provides a means to help certain classes of workers not only support themselves and contribute to the support of their families, but also become vital, productive members of society.

But while pleased that telecommuting offers important incentives and advantages, Grantham is equally concerned about the hidden restraint on telecommuting contained in what he calls "the inhibitory urges of first-line management." From his point of view, the strength of this phenomenon is vastly underestimated, and is probably the major reason that telecommuting has not become more popular than it is.

While these positive and negative forces play themselves out in the workplace, the Institute continues to study in detail more aspects on the cutting edge of the telecommuting movement. Some of its most recent projects include:

- The study in Contra Costa County, supported by AT&T, designed to put hard numbers on the family and community impact of telecommuting. Results will be released at a conference in San Francisco on September 22, and will be reported here as soon as possible.
- A separate study to quantify the impact of telecommuting on individual and corporate productivity. Grantham says he finds a reliable 15% increase in productivity among telecommuters, as measured by both workers and their managers. The figure appears to apply "across the board," he says, with statistically significant levels of agreement and very little variance from one firm to another, from one job classification to another.
- Still in progress at the Institute is a design project, funded by CalTrans, to determine the requirements of a telecommuting center that will meet the broadest range of employee, employer, and community needs. Grantham believes that a successful telecommuting center will not only provide a good place to work, but will also house programs and facilities for educating the community about the opportunities to telecommute, and for fostering closer connections between the community and the telecommuting center itself. For example, successful

BUYING A COMPUTER CAN BE FUN!

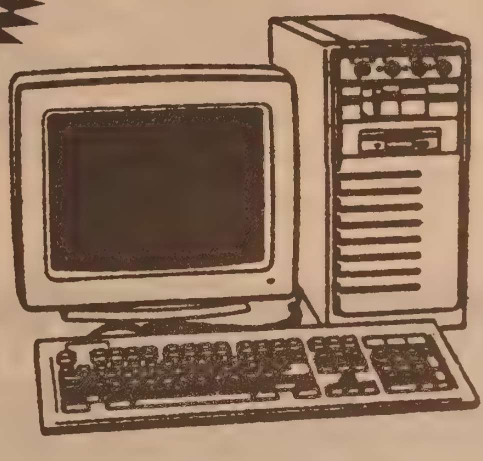
Are you afraid of walking into a computer store and being overwhelmed by computer talk?...well you don't have to be afraid anymore. At Winners Circle we offer an informal and relaxed atmosphere. Our knowledgeable sales staff takes the time to help you choose the right computer from our large selection of major brands. Come to Winners Circle and find out why...our computers are better.

Andy's Special VESA Machine

- 486DX-33
- 4MB RAM
- 5.25" and 3.5" Floppy
- 245MB Hard Drive
- Special Software Bundle
- DOS 6
- Windows 3.1
- Mouse
- Local Bus Video
- Local Bus Controller 3x Faster
- .28 Color VESA Monitor (SVGA 1024x768)

WORD PERFECT 6.0
SEE IT FAXED DIRECTLY
FROM THE PROGRAM!
ONLY $129

FASTER THAN FAST!



$1999

PC Upgrades

Upgrade your Leading Edge or any computer to 386DX-40 ....**$399**

245MB Hard Drive Upgrade for as low as **$350***

120MB Hard Drive Upgrade for as low as **$199***

* with exchanged core

VIDEO TOASTER 4000

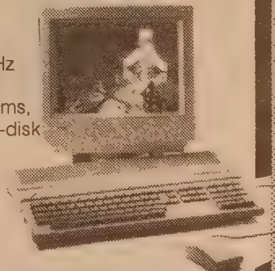
VIDEO TOASTER
4000

SUPER TOASTER ON DEMO & IN STOCK

Newtek
Authorized

Create broadcast quality television on your desktop!

Atari Falcon



- 68030-16MHz CPU
- Pipelined architecture
- Motorola 56001 DSP at 32MHz
- DSP connector allows easy connection to fax/data modems, voice mail systems, direct-to-disk digital audio recorders
- Direct processor slot
- Super VGA
- Eight 16-bit digital audio
- MIDI In /MIDI Out

Canon
Bubble Jet 200

Breakthrough Technology

Canon's new Bubble Jet printer incorporates new print technology that produces laser quality printing at a truly affordable price. With 360dpi resolution, the BJ 200 prints text and graphics with the speed and quality of a laser printer. And the new compact size fits anywhere easily, without taking up valuable space.

$329 with ad
with rebate

The Most Powerful Pocket-Sized Computer

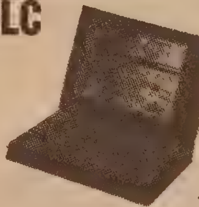
PSION SERIES 3

Easy to use Graphical User Interface with windows, pull-down menus, dialog boxes and icons.

- Word Processor compatible with Microsoft Word
- Database with cross referencing templates
- Time & Personal Management Diary
- Communicates with printer, modems, etc.
- Computer Calculator
- Expandable
- Size only 6.5"x3.3"x0.9"

$299 In Stock

TEXAS INSTRUMENTS WIN 486SLC



- 25MHz Processor
- 120MB Hard Drive
- 4MB RAM
- DOS, Windows 3.1
- Weighs 5.6lbs.
- Trackball

$1529

TEXAS INSTRUMENTS

AVR 800 Scanner/CLX

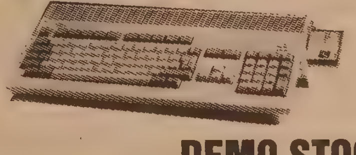
AVR Technology

- High resolution 1600x1600 dpi output
- 24 Bit Color Scanner, scans16.8M colors
- Bundled with Picture Publisher™ software
- Type-Reader™ OCR software upgradable

PC WINDOWS VERSION $1316
MAC VERSION AVAILABLE

COMMODORE

Amiga 500 *Personal Computer*



DEMO STOCK
$200

Commodore®
AMIGA

AST Power Exec 4/25SL

- Intel® 486SL-25 Processor
- 4MB RAM exp. to 32MB
- 200MB Hard Disk
- 9.5" Matrix Color Display

AST Power Exec 4/25SLC

- Intel® 486Sl-25 Processor
- 4MB RAM exp. to 32MB
- 200MB Hard Disk
- 9.5" Matrix Color Display

AST®
Authorized System Reseller

FEATURING TOP RATED SERVICE

- Friendly, Knowlegeable Staff • Full Time Tech Support
- In-House Authorized Repairs • Free Public Domain Software • Free Training

PRODUCT SELECTION

- Top-Rated Major Brand Computers and Printers • CD-ROM • Tape Backup
- Laptop Computers • Modems and Fax Machines • Large Selection of Software & Accessories
- Color Desktop Publishing

WINNERS CIRCLE SYSTEMS

2618 Telegraph Ave. • Berkeley, California • 510-845-4814 • Fax 510-845-2400
Hours: Monday Thru Saturday 10:00-6:00

N
Telegraph
UC Campus
Dwight Way
80
24
Ashby

telecommuting centers of the future may contain equipment that gives ordinary citizens direct access to local government services, directories of officials, on-screen application forms, and much more. It's already clear that these telecommuting centers should be strategically located within the public transportation network so people can travel to it by bus, bike, foot, and other non polluting ways. "If you have to use the freeway to go telecommuting," says Grantham, "you're throwing away some of the benefits that made CalTrans supportive of telecommuting in the first place."

- A comparison of telecommuting in large and small organizations. The results showed that telecommuting tends to be a relatively informal affair among organizations with fewer than one hundred employees: a large number of people are simply taking the account books home at the end of the month, or staying home to accomplish other projects that would be more difficult to complete in the office. Many of these telecommuters don't even know what to call the arrangement, but are nevertheless successful at making them work out well. "The management of teleworkers in the small business segment," Grantham observes, "just doesn't seem to pose the same problems and restraints that it does in large corporations, probably due to nothing more than the difference in sizes."
- Grantham is looking forward to his next project, a comprehensive international study on what he calls the "untethered worker." Grantham and his colleagues have identified "a couple of hundred" people who are working for companies across state or national borders, using electronic communications technology to maintain close enough ties to build long-term relationships and to remain effective members of the team. Says Grantham: "I want to know what is required of employees and employers to successfully support this kind of employment."

Grantham speculates that telecommuting may reach the "take off" stage (at which it begins to proliferate very quickly) somewhat sooner in Europe than the US, if only because the European Economic Community is aggressively standardizing wage rates, benefits, and job categories so people can more easily telecommute across borders there. In addition, the investment in the most modern forms of electronic communications infrastructure is proceeding much faster there than in this country. Grantham reports that in Budapest, for example, the laying of fiber optic cable to link outlying villages with the capital is well underway, and indeed enjoys a much higher priority than such basic elements of infrastructure as sewage treatment plants. "The US communications environment is still hamstrung by monopoly restrictions and policy confusion," he says. "Perhaps we don't need fiber optics today to accomplish telecommuting effectively, but if it turns out that we need it later, the US may be at a significant disadvantage to the rest of the developing world."

For more information on topics mentions in this article, contact: Larry Nichols, Charles Grantham, The Institute For The Study of Distributed Work, 725 Washington St., Suite 210, Oakland, CA 94607. (510)834-1484. Fax: (510)834-1486. ■

We know your NOVELL training is important to you.

FREE...
CNE
Orientation
* Sept 8th at the *"Solutions Expo"*
* Sept. 22nd in S.F.
Register today...
1-800-729-9995

And we are listening...

YOU ASKED FOR:	AND CLARITY TECHNOLOGIES HEARD YOU:
☐ The very best instructors...	✔ Clarity instructors are highly rated Certified NetWare Instructors with *extensive field experience*.
☐ Quality, customer service...	✔ Clarity provides *each student* with their own Education Counselor to guide and support them in achieving their individual training needs.
☐ CNE, ECNE, and CNA programs...	✔ Clarity *offers all* Certified NetWare Engineer, Enterprise Certified NetWare Engineer, and Certified NetWare Administrator programs.
☐ Daytime, evening, weekend, and accelerated classes...	✔ Clarity was *the first NAEC* in the Bay Area to offer CNEvening and Accelerated CNE programs. Now offering *Weekend CNE* program!!
☐ State-of-the-art equipment and facilities...	✔ Clarity offers the highest quality training facilities including *separate classrooms and laboratories*.
☐ Convenient financing options...	✔ Clarity *now offers* financing for your CNE, ECNE, and CNA training.

Serving the entire Bay Area, with three convenient locations:
444 Market Street, San Francisco, CA 94111
2175 N. California Blvd, Walnut Creek, CA 94596
181 Metro Drive, San Jose, CA 95110
1-800-729-9995

CLARITY
TECHNOLOGIES
Specializing in Network Education

Novell Authorized Education Center

3 REASONS TO BUY FROM MEDIA VALUE.

•PRICE

We will match or beat our competition everytime.

•SERVICE

Orders received by 2pm are shipped same day

•QUALITY

Meets / exceeds quality standards

MEDIA VALUE

1-800-845-3472 OR 1-800-200-0020

Free Software

For orders of $150 receive a $99.95 valued Action Plus Lite Software Program.

- **Free Next Day Delivery For Local Bay Area Accounts - $5K + Orders**
- **Corporate, Government & Education Purchase Orders Welcomed**
- **100% Guaranteed**

HOT 3.5" PRICES

Premium
720 K DS/DD
PRE-FORMATTED PC
Lifetime Warranty
720K

37¢

Bulk Unformatted - 29¢
Shipping: $1.20 per 50
3.5" User Labels - 3¢ Each
Mac Format Add 5 ¢

25¢
3.5 DS/DD
720K

PRELABELLED UNFORMATTED

29¢
3.5 DS/DD
720K

NO LABEL UNFORMATTED

Premium
1.44 MB DS/HD
PRE-FORMATTED PC
Lifetime Warranty
1.44 MB

47¢ Priced in Lots of 1000

Each in Lots of 500 - 51¢
Each in Lots of 100 - 53¢
Bulk Unformatted - 46¢

41¢
3.5 DS/HD
1.44 MB

PRELABELLED UNFORMATTED

44¢
3.5 DS/HD
1.44 MB

NO LABEL UNFORMATTED

MINIMUM ORDER 100

Summer Prices Sizzle

HOT

DISK/CD DUPLICATION AVAILABLE FOR QUOTE

HOT 5.25" PRICES

PREFORMATTED

Premium 360K
PRE-FORMATTED PC
DS/DD
Includes Sleeves & Tabs!

21¢ **Priced in Lots of 1000**

22¢ Each in Lots of 500
23¢ Each in Lots of 100
Shipping: $1.20 per 100
5.25" User Labels - 2¢ Each

PRE-LABELLED UNFORMATTED W/SLEEVES

Premium 360K
10¢
5.25 DS/DD

PREFORMATTED

Premium 1.2 MB
PRE-FORMATTED PC
DS/HD
Includes Sleeves & Tabs

27¢ **Priced in Lots of 200**

30¢ Each in Lots of 100
31¢ Each in Lots of 50
Shipping: $1.20 per 100
5.25" User Labels - 2¢ Each

PRE-LABELLED UNFORMATTED W/SLEEVES

Premium 1.2MB
20¢
5.25 DS/HD

International Inquiries Welcome

PREMIUM WHITE BOXED DISKETTES

Shipping: 30¢ Each:

3.5" DS/DD	Box of 10	$3.60
3.5" DS/HD	Box of 10	5.85
5.25" DS/DD	Box of 10/Lots of 100	2.35
5.25" DS/HD	Box of 10	3.35

Lifetime Warranty

HEAD CLEANING KITS for 3.5 & 5.25	**2.99**
DISKETTE MAILERS	**CALL**
8 MM CLEANING CARTRIDGE	**9.99**

BULK DISKETTES

5.25" DS/DD	360K	**18¢**
5.25" DS/HD	1.2 MB	**24¢**
5.25" DS/DD COLOR	360K	**29¢**
5.25" DS/HD COLOR	1.2 MB	**44¢**

Shipping: $1.20 per 100 Disks:

Premium Data Cartridges

15% OFF LIST!

Shipping: 60¢ Each:	2-9	10+
DC600A for 60 MB (Generic)	**$16.99**	**$15.99**
DC6150 for 150 MB (Generic)	**17.99**	**16.99**
DC6250 for 250 MB (Generic)	**21.99**	**20.99**
4mm DAT & 8mm	**CALL**	**CALL**

CALL FOR BRAND NAME QUOTES

FAX ORDERS: (408) 727-3155

CUSTOMER SERVICE: (800) 354-3798

Visa & MasterCard accepted with no surcharge. We check for and report credit card fraud! ☐ C.O.D. add $5.00 ☐ Handling charge is $3.75 per order to cover order processing, packing, etc. ☐ Shipping charges for the continental U.S. are listed with each item. APO/FPO, Canada, and P.O. Box orders add an additional 20% of purchase price. Shipments to AK, HI, PR are by air only ☐ California residents add 8.25% sales tax. No tax outside of California ☐ Purchase orders will be accepted on a Net 30 day basis from Educational Accounts, Federal and State Government Agencies with minimum initial order size of $150. ☐ Corporate accounts welcomed call for details. ☐ Products, price and availability are subject to change without notice.

* Cashiers check and money orders will ship upon receipt - Personal checks add 10 days.

PRINTER RIBBONS

Long Lasting OEM Quality

Shipping: $3.00/Dozen or Fraction	List Price	Media Value
Apple Imagewriter I, II	~~7.00~~	**$1.65**
Apple Imagewriter 4CLR	~~13.00~~	**5.17**
Citizen 120D/GSX140	~~7.00~~	**2.55**
Diablo Hytype II M/S	~~6.50~~	**1.99**
Diablo Hytype II NY	~~6.50~~	**1.99**
Epson FX/RX/MX 70/80	~~6.00~~	**2.15**
Epson LQ 500/800/850 NY	~~10.50~~	**2.19**
Genicom 3000, 136 COL	~~18.00~~	**13.95**
IBM Proprinter 4201	~~11.50~~	**2.96**
IBM Proprinter 4202	~~10.65~~	**3.55**
NEC P5200 W/loop NY	~~13.50~~	**5.15**
NEC Spinwriter 3500	~~5.40~~	**5.40**
Panasonic 1080/1090 Welded	~~14.70~~	**4.90**
Panasonic KX-1624	~~13.50~~	**6.95**
Radio Shack VI/VII NY	~~9.75~~	**2.97**
Star Micronics NX2400	~~8.00~~	**2.67**
Star Micronics NX1000	~~7.49~~	**2.49**

* Minimum order 6 **Plus 100's More**

Printer ribbon brands too numerous to list...Call us for prices!

Complete Steps 1–5 and Mail To: Media Value • 4251 Burton Dr. • Santa Clara, CA 95054

❶ SHIP TO STREET ADDRESS:

Name ____________ Company ____________

Address (no P.O. boxes) ____________

City ____________ State ________ Zip ____________

Day Phone ____________ Eve Phone ____________

❷ METHOD OF PAYMENT: *

☐ Check/Money Order Enclosed ☐ C.O.D.

☐ VISA ☐ MasterCard

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

CARD NUMBER

❸ ____________ ________

SIGNATURE – MUST ACCOMPANY ALL ORDERS CARD EXPIRES

❹ DESCRIPTION & PRICE OF ITEMS TO ORDER:

QTY	COMPLETE DESCRIPTION (Brand, Size, Color, Density)	UNIT SHIPPING	SHIPPING TOTAL	UNIT PRICE	TOTAL PRICE

❺

MERCH TOTAL		SHIP TOTAL		HANDLING		COD ADD $5 00		.825 CA TAX		OTHER		**TOTAL DUE**
	+		+	$3.75	+		+		+		=	
Sub-Total from 'TOTAL PRICE'		Sub-Total from 'SHIPPING TOTAL'		Must be added to all orders.		Add only if COD		California Only		Overseas, 2nd Day Air, etc.—Call for info.		

WE WON'T MATCH ANYBODY'S WE'LL BEAT IT.

WITH THE BEST 486 PRICE/ PERFORMANCE—GUARANTEED.

When it comes to value in powerhouse PCs, nobody beats Shasta. Because for pure price/ performance, we won't be undersold. Ever. Our line of 486 systems for corporate and home-office use covers the entire performance spectrum—from starters to screamers. They're loaded with features, and engineered to the highest standards, using only quality Elitegroup motherboards. And they're available now at unbeatable price points. Only from Shasta.

READY TO SHIP—NOW.

The standard Shasta systems shown here are preconfigured and ready to ship. While our supplies last and if we have your system in stock, we'll ship it to you within one working day. We must receive your order by 1 p.m. Pacific time, with your valid check or credit card. If we promise you a shipping date and for some reason we can't meet it, we'll ship your order at our expense.

COVERED BY THE SHASTA PROTECTION PLAN.

Even at these rock-bottom prices, we still back each and every system we sell with the best package of no-risk guarantees on service and support:

- *Customer satisfaction:* 30-day money-back guarantee on all purchases.
- *Warranty:* 1-year on-site limited warranty.
- *Express replacement service:* For the first 30 days, we'll repair your computer within 48 hours of receiving it.
- *Free technical support:* We offer lifetime toll-free technical support for as long as you own your Shasta system.

FOR REAL VALUE, CALL TODAY.

No one beats Shasta for PC quality, delivery, service and price/performance. No one. We guarantee it. For a free consultation or to order, talk to one of our knowledgeable sales consultants today. They'll see that your standard system is shipped immediately, or help you design a custom PC to your exact specifications.

CALL TOLL-FREE NOW 1-800-546-9888

Mon-Fri 7 a.m. to 7 p.m. (Pacific time)

Shasta Computers
46761 Fremont Blvd.
Fremont, CA 94538
Tel: (510) 249-9204
Fax: (510) 249-9538

UPGRADE OPTIONS FOR ALL MODELS

- Add 5.25-in. FDD [$53]
- Upgrade RAM from 4 to 8Mb [$215]
- Upgrade RAM from 4 to 16Mb [$477]
- Add secondary cache from 0 to 128Kb [$25]
- Add secondary cache from 0 to 256Kb [$50]
- Upgrade secondary cache from 128 to 256Kb [$25]
- Upgrade monitor to non-interlaced .28mm dot pitch [$25]
- Upgrade monitor to ADI 3E+ 14-in. [$90]
- Upgrade monitor to ADI 3G 14-in. [$95]
- Upgrade monitor to ADI 4G 15-in. [$160]
- Upgrade monitor to ADI 5A 17-in. [$550]

intel inside

Shasta Computers contain an Intel486™ microprocessor. The Intel Inside logo is a trademark of Intel Corporation.

PC MAGAZINE EDITORS' CHOICE

The ADI MicroScan 3E+ 14-in. monitor was awarded PC Magazine's Editors' Choice in the March 16, 1993 issue.

Slimline System

Prestige Desktop System

Desktop System

PRICE/PERFORMANCE.

FREE
with any system
MS-DOS 6.0, Windows 3.1
and Microsoft-compatible
3-button mouse

1-year on-site
limited warranty

SHASTA 486 $1161
DESKTOP SYSTEM

Intel486	130Mb	170Mb	214Mb	250Mb	340Mb
SX25	$1161	$1181	$1211	$1247	$1352
SX33	$1257	$1277	$1307	$1343	$1448
DX33	$1382	$1402	$1432	$1468	$1573
DX2/66	$1642	$1662	$1692	$1728	$1833

- Elitegroup 486 motherboard
- Integrated 8Kb cache, upgradeable to 256Kb
- 4Mb, 70ns high-speed memory, expandable to 32Mb
- 6 ISA slots
- 3.5-in. floppy drive
- 1024 x 768 SuperVGA adapter, with 1Mb RAM
- 1 parallel, 2 serial, 1 game port
- Enhanced 101-key mechanical keyboard
- 14-in., 0.28mm dot pitch SVGA color monitor, 1024 x 768
- Ergonomic desktop chassis with 200W power supply

Option:

- Upgrade to Prestige Slimline molded chassis with 85W power supply [$20]

SHASTA 486 $1222
PRESTIGE DESKTOP SYSTEM

Intel486	130Mb	170Mb	214Mb	250Mb	340Mb
SX25	$1222	$1242	$1272	$1308	$1413
SX33	$1318	$1338	$1368	$1404	$1509
DX33	$1443	$1463	$1493	$1529	$1634
DX2/66	$1703	$1723	$1753	$1789	$1894

- Elitegroup VESA Local Bus 486 motherboard
- Pentium™-technology ready, 238-pin ZIF socket
- 128Kb cache, upgradeable to 256Kb
- 4Mb, 70ns high-speed memory, expandable to 32Mb
- 6 ISA slots
- 2 VESA Local Bus slots: 1 master, 1 slave
- 3.5-in. floppy drive
- 1024 x 768 SuperVGA adapter, with 1Mb RAM
- 1 parallel, 2 serial, 1 game port
- Enhanced 101-key mechanical keyboard
- 14-in., 0.28mm dot pitch SVGA color monitor, 1024 x 768
- Prestigious molded chassis with 200W power supply

Options:

- Upgrade SuperVGA adapter to 1Mb VL adapter [$50]
- Upgrade to mid-tower chassis [$14]

SHASTA 486 $1651
EISA MID-TOWER SYSTEM

Intel486	214Mb	250Mb	340Mb
DX33	$1651	$1687	$1792
DX2/66	$1911	$1947	$2052

- Elitegroup EISA/VESA Local Bus 486 motherboard
- Pentium-technology ready, 238-pin ZIF socket
- 128Kb cache, upgradeable to 256Kb
- 4Mb, 70ns high-speed memory, expandable to 128Mb
- 8 EISA slots
- 2 VESA Local Bus slots: 1 master, 1 slave
- 3.5-in. floppy drive
- 1024 x 768 SuperVGA adapter, with 1Mb RAM
- 1 parallel, 2 serial, 1 game port
- Enhanced 101-key mechanical keyboard
- 14-in., 0.28mm dot pitch SVGA color monitor, 1024 x 768
- Ergonomic mid-tower chassis with 200W power supply

Option:

- Upgrade SuperVGA adapter to 1Mb VL adapter [$50]

SHASTA 486 $1722
MULTIMEDIA SYSTEM

Intel486	130Mb	170Mb	214Mb	250Mb
SX25	$1722	$1742	$1772	$1808
SX33	$1818	$1838	$1868	$1909
DX33	$1943	$1963	$1993	$2029
DX2/66	$2203	$2223	$2253	$2289

- Built-in stereo amplifier, 5 Watts (RMS) per channel, frequency response 20 to 20KHz
- Front panel controls:
  - Sound source
  - Microphone and headphone jacks
  - Volume control
- Elitegroup 486 motherboard
- Integrated 8Kb cache
- 4Mb, 70ns high-speed memory, expandable to 32Mb
- 6 ISA slots
- High-performance multimedia audio adapter
- CD-ROM drive with an abundance of CD titles bundled
- 3.5-in. floppy drive
- 1024 x 768 SuperVGA adapter, with 1Mb RAM
- 1 parallel, 2 serial, 1 game port
- Enhanced 101-key mechanical keyboard
- 14-in., 0.28mm dot pitch SVGA color monitor, 1024 x 768
- Integrated MPC chassis with 200W power supply

Mid-Tower System

Multimedia System

Shasta

Shasta is a trademark of Shasta Computers. All other names mentioned are trademarks or registered trademarks of their respective companies. Prices and specifications are subject to change without notice. ©1993 Shasta Computers.

HIQ

HIQUALITY SYSTEMS, INC.

SPECTRUM
BOOKSHELF
CARMEN

New Vision Productions - Dave Lapori, Photographer

Entertainment

That Brings People Together

NO Down Payment!

No Interest for 90 Days!*

30 Day "No Questions Asked" Money-Back Guarantee

Share Endless Hours of Adventure and Sound with HiQ's Multimedia System!

HiQ Multimedia MultiMAGIC© System

- Intel 486DX-33MHz Processor
- 256K SRAM Cache
- 4MB RAM (70ns) Exp. to 32MB
- 1.2MB and 1.44MB TEAC FDDs
- 210MB IDE Western Digital IDE Hard Disk Drive, 13ms
- DTC 2272 VESA Local Bus IDE Controller 2H/2F With 2 S / 1 P, Game Port
- Fahrenheit VESA Local Bus 32-Bit SVGA card, 1280, with 1MB
- 14" ADI 3G+SVGA 1280 x 1024, 0.28dot pitch Color Monitor
- 101 Enhanced Waterproof Keyboard
- AT Case with 230W Power Supply
- **FREE with this System! Hi-Res Mouse, MS Windows 3.1 & MS-DOS 6.0 w/Manuals!**

PENTIUM READY!

BBB

- Toshiba 3401B Internal CD-ROM (The Fastest CD-ROM)
- Media Vision Pro AudioSpectrum 16-Bit w/SCSI port
- Twin Sound Speakers (No wires, battery, or mess)

PC MAGAZINE
PC Magazine's THE BEST OF 1991
Pro AudioSpectrum

Software CD Titles Include:

- **Compton's Multimedia Encyclopedia**
- **Microsoft Bookshelf**
- **Where in the World is Carmen San Diego?**
- **San Diego Zoo presents "The Animals"**

Only ***$2489***

Since 1987, HiQ has set the standard for sales and service in the personal computer market place. With offices from California to Georgia, HiQ has the experience and knowledge to help you achieve your personal and business computing goals. There are many companies that will sell you a computer, but only one that will back **you** up with technical support, quality equipment and good old-fashioned service. If you're looking for a computer or an entire Local Area Network, HiQ wants to help you make the job easy.

Call HiQ Today!

1-800 827-5836

- FREE Lifetime Technical Support
- One Year Parts & 2 Years Labor Warranty
- Customized Configurations & Leasing
- Corporate & Government P.O.s Welcome!

*With Credit Approval

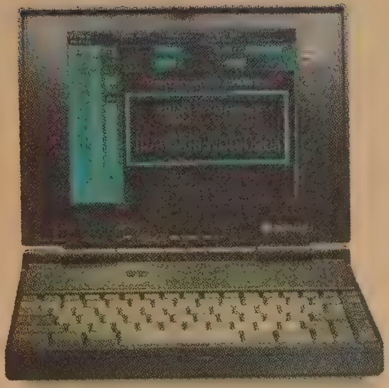
"HOT NEW PRODUCT"

Twinhead

486SLC-33 MHz SubNote

- 4 MB RAM Expandable to 8 MB
- External 1.44 MB Floppy Drive\
- 8" Side-Lit VGA, 64 Shades of Gray Display
- One Serial/One Parallel
- PCMCIA Slot
- 85 MB IDE Hard Drive
- 79 Keys Keyboard
- Built-In Trackball w/2 Buttons
- MS DOS 6.0/MS WIN 3.1 w/Manuals
- Dimensions: 7.1" x 10" x 1.6"
  Weight 4 LBS w/Battery

Only ***$1575***



Twinhead

486DX-33MHz NoteBook

- 4 MB RAM Exp. To 20 MB On Board
- Built-in 1.44MB Floppy Disk Drive
- One Serial Port and One External Keyboard/Mouse Port
- 10" Paper White, 64 Shade Sidelit Display
- 130MB IDE HDD (200MB avaliable)
- 84 Key keyboard, 12 Function Keys with Numeric and Editing Keypad
- MS-DOS 6.0 with manuals
- Dimensions: 8.5"x11"x1.7", Weight: 5.8lbs with battery

Only ***$2065***

Twinhead *486DX-33MHz Active Color Matrix NoteBook*

Only ***$3695***

- 4MB RAM Exp. To 20 MB On Board
- Built-in 1.44MB Floppy Disk Drive
- 8.5" Active Color Matrix, 256 Color, Super Twist Nematic, 512K Video RAM
- Two Serial Ports
- One External Keyboard Port
- 130MB IDE Hard Disk Drive (200MB available)

84 Key kybd, 12 Function Keys with Numeric and Editing Keypad
MS-DOS 6.0 and MS Windows 3.1 with manuals
Dimensions: 8.5"x11"x1.8", Weight: 6.3lbs with battery

★FAMILY★
ENTERTAINMENT

MUTLIMEDIA

HiQ Family Entertainment Kit

Panasonic CR-522B CD-ROM

- SoundBlaster Pro II Stereo Version
- Mini Stereo Speakers

Special Sale Price $399

CD Software Titles Include:

- **Encyclopedia by Software Toolworks**
- **World Atlas by Software Toolworks**
- **Where In the World is Carmen SanDiego - Deluxe Version**
- **San Diego Zoo Presents "The Animals"**
- **MicroSoft Bookshelf**

HiQ Performance Entertainment Kit

Toshiba XM-3401B CD-ROM

- Media Vision Pro AudioSpectrum with SCSI Port
- Free Mini Stereo Speakers

CD Software Titles Include:

- **Where In the World is Carmen SanDiego**
- **San Diego Zoo Presents "The Animals"**
- **Compton's Encyclopedia Software**
- **MicroSoft Bookshelf**

Special Sale Price $699

Hot New CD Titles!

American Business Phonebook 92	$29
Arcade Battles	$20
Aircraft Encyclopedia	$33
About Cows	$33
ARIS Wild Places (Picture Clips)	$25
ARIS World View (Picture Clips)	$25
Beauty & the Beast	$25
Barney Bear goes to School	$25
Barney Bear goes to Space	$25
Baron College Handbook	$25
Business Master	$29
ChessManic	$42
Chessmaster 3000 MPC	$25
CICA Windows Shareware	$24
Clipart Heaven	$29
Guiness Disc of Records 93 MPC	$29
Game Master	$20
GIFS Galore Shareware	$24
Magazine Rack (100,000 Articles)	$33
Mantis Experiment Fighter	$29
Mayo Family Clinic	$29
OS/2 Archive Shareware	$24
PC SIG 11 Shareware	$19
PC SIG 12 Shareware	$26
PC Medic	$33
Programmer' ROM	$33
Roger Ebert's Movie Guide	$33
Sherlock Holmes Vol.1	$25
Seventh Guest	$56
Terrorist Group Profiles	$33
Total Baseball (reference)	$25
USA State Factbook	$28
World of Trains	$33
World of Flight	$33

Please Call for more Games or CD Titles...

TOSHIBA
XM-3401B
SUPER FAST CD-ROM Internal **$449**

- 200ms, 330KB/Sec
- SCSI CD-ROM
- Multi-Spin/Multi Speed
- 256K Cache, Photo CD Comp

Ordering Information: Shipping and handling additional. Corporations rated 32A or better and Government accounts are accepted on a 30 net basis. C.O.D. orders over $500 add $10.00 special handling charges. Fill returns must have prior authorizations from our Customer Service Department (408) 245-5836. Fill returns must be in original packaging and include all warranty cards and manuals. Incomplete product returns, unauthorized returns and refuse shipments are subject to a 20% re-stocking charge. Fill prices and specifications are subject to change without notice. All trademarks belong to their respective companies. Not responsible for typographical errors.

HIQ

For Orders Call:
1-800-827-5836

NEW HOT PENTIUM SYSTEM

HiQ's Powerhouse Computers take you to the Highest Level in personal computing!

HiQ Pentium Ultra Graphics Station

American Megatrends

- Intel Pentium 60MHz Processor
- AMI Excalibur VESA Local Bus M/B
- 16MB RAM Expandable to 128MB On Board
- 16KB Internal Pentium Cache
- 1.2MB And 1.44MB Teac Floppy Drive
- 210MB Western Digital/IDE HDD 13ms
- Integrated VESA Local Bus IDE Controller w/2 Serial, 1 Parallel
- Fahrenheit VESA Local Bus SVGA Card w/1MB RAM
- 15" ADI 4G SVGA 1280x1024 .28dp Color Monitor
- 101 Enhanced Keyboard
- Full Tower Case w/250W Power Supply
- Hi-Res Mouse with Windows 3.1 and MS DOS 6.0 w/Manuals

Only **$5095**

Handles Intense Math or Graphics Applications!

HiQ Super Power 4DX2-66VLB System

When you need a system to run Scientific and Graphics applications efficiently, this Top-of-the-Line system offers you Power, Speed and Dependability. Built with the highest quality parts available, such as Intels' Lightning-fast 486DX2-66MHz Microprocessor and the Micronics High-end motherboard!

- Intel 486DX2-66MHz Processor
- Micronics VESA Local Bus motherboard
- 4MB RAM (70ns) expandable to 64MB
- 256K SRAM Cache
- 2-VESA LB, Six 16-Bit Slots
- 1.2MB and 1.44MB Teac Floppy Drives
- 210MB Western Digital/IDE HDD 13ms
- Integrated 32-Bit Local Bus IDE controller w/2 Serial, 1 Parallel ports
- Fahrenheit VESA LB SVGA Card w/1MB RAM
- 14" SVGA Color Monitor, Non-Interlaced, 1024x768, 0.28dp
- 101 Enhanced Waterproof Keyboard
- Mid Tower Case w/230W Power Supply (Full Tower upgrade option - add $30)
- Mouse, Windows 3.1 & DOS 6.0

COMPUTER SHOPPER TOP 10

*Computer Shopper Top 10 System Review March 1993

Only **$1989**

Full Tower configuration

HiQ Mid Tower configuration

This System Processes Video Images at the Speed of Light!

HiQ Power 433VLB System

Light Years ahead of the competition, This HiQ System processes Video Images 10 TIMES FASTER than standard ISA systems - perfect for AutoCad or Windows.

- Intel 486DX-33MHz Processor
- Micronics VESA Local Bus motherboard
- 4MB RAM (70ns) expandable to 64MB
- 256K SRAM Cache
- 2-VESA Local Bus, Six 16-Bit Slots
- 1.2MB and 1.44MB Teac Floppy Drives
- 210MB Western Digital/IDE Hard Disk Drive
- Integrated 32-Bit Local Bus IDE controller with 2 Serial, 1 Parallel port
- Fahrenheit VESA Local Bus SVGA Card w/1MB RAM
- 14" SVGA Color Monitor, Non-Interlaced 1024 x 768, 0.28dp
- 101 Enhanced Waterproof keyboard
- Mid Tower Case w/230W Power Supply
- Mouse, Windows 3.1 & DOS 6.0

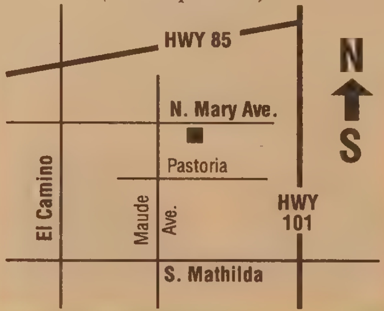
Accept only the finest... Caviar

WESTERN DIGITAL

Caviar is a trademark of Western Digital Corporation

Only **$1749**

Stop by our convenient Sunnyvale Store (See map below)



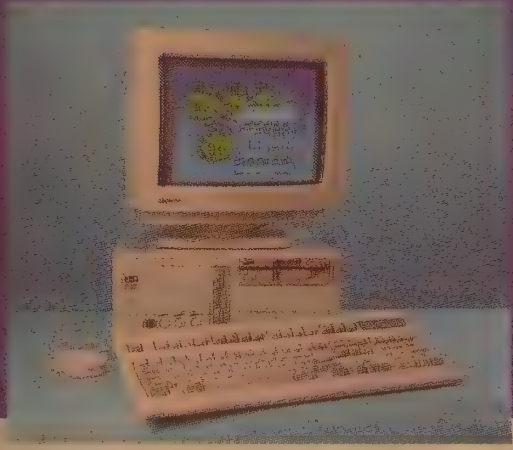
AMI Diagnostic Software Retails $60 w/System Purchase Only $20.00!

Northern California Locations:

South Bay
740 N. Mary Ave., Sunnyvale, CA 94086
(408) 245-5836, Fax: (408) 245-3108

Marin County
2048 Fourth St., San Rafael, CA 94901
(415) 459-1893, Fax: (415) 459-7248

Sacramento
1967 Zinfandel Dr. Rancho Cordova, Ca
(916) 635-7842, Fax: (916) 635-3692



HiQ Desktop configuration

HiQ Ultimate 433I/450I Systems

For Business People Who Need a Powerful, Reliable System to Get the Job Done.

- Intel 486-33/486DX-50 Processor
  128K SRAM Cache
- 4MB RAM expandable to 32MB
- 1.2MB and 1.44MB **Teac** Floppy Drives
- 170MB IDE **Conner** HDD w/32K Cache
- IDE controller 2H/2F
- 2 Serial, 1 Parallel and 1 Game ports
  Trident OEM SVGA Card, 16-Bit,
- 1024 x 768 w/1MB RAM
- 14" SVGA Color Monitor 1024x768, 0.28dp
- 101 Enhanced Waterproof keyboard
  AT Desktop Case w/220W Power Supply

Only ***$1259/$1399***

HiQ Mini Tower configuration

HiQ Ultimate 433VLB/4DX2-66VLB Systems

Create Impressive Graphics!

PENTIUM READY!

- Vesa Local Bus
- Intel 486-33DX/486DX2-66MHz Processor
- 4MB RAM (70ns) Expandable to 32MB
- **128K SRAM Cache**
- 1.2MB and 1.44MB Teac Floppy Drives
- 210 MB Western Digital IDE HDD w/32K Cache
- Vesa Local Bus 32 Bit IDE controller 2H/2F
  w/ 2 Serial, 1 **Parallel**, Game ports
- VESA LB 32-Bit SVGA Card w/1MB RAM
- 14" SVGA Color Monitor 1024x768, 0.28dp
- 101 Enhanced Waterproof keyboard
- AT Desktop Case w/220W Power Supply

only ***$1359/$1559***

NEW! HiQ Black Case System - Additional Cost (Call for Other Exciting Black System Configurations)

HiQ Ultimate 440DX Systems

AMD CPU Is Here, Faster But Costs You Less, What A Great Deal!

Hot Monthly Special!

- AMD 486DX-40 MHz Processor
- 4 MB RAM (70ns) Expandable to 32 MB
- 128K SRAM Cache
- 210 MB Western Digital IDE HDD 13ms
- VESA Local Bus 32 Bit IDE Controller 2H/2F
  w/2 Serial and 1 Parallel Ports
- Cirrus Logic VESA LB SVGA Card w/1 MB
- 14" SVGA Color Monitor 1024x768, 0.28dp
- AT Desktop Case w/230W P/S

Special Sale Price Only

$1359

UPGRADE OPTIONS

"Don't throw away a winning hand"...Upgrade your old PC. You don't need Lady Luck to help your old computer attain peak performance. HiQ gives FREE ESTIMATES on old systems & installs new parts FREE!

MOTHERBOARDS

486DX2-66MHz AMI Enterprise III EISA VESA LB w/256K	**$1095**
486DX-33MHz Micronics VESA LB w/256K	**$679**
IBM 486SLC-50MHz w/128K Cache "3 Year Warranty"	**$389**

Call for more information.

VIDEO CARDS

ORCHID P9000VESA LB SVGA, 3MB RAM	**$349**
Fahrenheit VESA LB SVGA CArd, 1MB RAM	**$159**
Diamond Speedstar Pro VESA LB SVGA Card w/1MB RAM	**$129**
Cirrus Logic VESA LB SVGA Card,1MB RAM	**$95**

HARD DRIVES

120MB Conner IDE 18ms	**$179**
170MB Conner IDE 18ms	**$199**
210MB Western Digital IDE 13ms	**$229**
213 MB Maxtor SCSI 15ms	**$269**
240MB Quantum IDE w/256K cache	**$259**
245MB Maxtor IDE 15ms	**$269**
340MB Maxtor IDE 13ms	**$319**
340MB Western Digital IDE 13ms	**$319**
525MB Fujitsu SCSI 12ms	**$699**
525MB Fujitsu IDE 12ms	**$699**

CONTROLLER CARD

DTC DC2272VL VESA LB IDE Controller card + 2S,1P	**$49**
Promise VESA LB IDE Controller card w/o cache Exp. to 16MB	**$159**
UltraStor 34F VESA LB SCSI Controller card	**$289**
Adaptec 1542C SCSI w/Kit Controller	**$249**
Adaptec 1542C Plus SCSI w/Kit Controller	**$319**

NETWORKING

NOVELL SMC SCO MICROSOFT 3COM LANtastic

HiQ file Server 4DX2-66I System

- Intel 486DX2-66MHz Processor
- 16MB RAM (70ns) Expandable to 32MB
- 256K SRAM Cache
- 1.2MB and 1.44MB Teac Floppy Drives
- 520MB IDE Hard Disk Drive 12ms
- IDE controller with 2 Serial, 1 Parallel ports
- Trident OEM SVGA Card, 16-Bit, 1024 x768, with 256K RAM
- 14" SVGA Mono Monitor, 1024 x 768
- 101 Enhanced Waterproof Keyboard
- Full Tower case w/250W PS, Dual fans
- Microsoft DOS 6.0 with manuals
- NE-2000 Ethernet 16-Bit card

Only ***$2589***

HiQ Workstation 340DX System

Accept only the finest...
Caviar
WESTERN DIGITAL

- 386DX-40MHz Processor
- 64K Cache SRAM
- 4MB RAM (70ns) Exp. to 32MB
- 1.2MB Teac Floppy Drives
- 80MB IDE HDD w/32K Cache
- IDE controller w/ 2 Serial, 1 Parallel ports
- Trident OEM SVGA card, 16-Bit, 1024x768 w/1MB RAM
- 14" SVGA Color Monitor 1024x768, 0.39dp
- 101 Enhanced keyboard
- Mini Tower Case w/200W Power Supply
- Microsoft DOS 6.0 w/manuals
- NE-2000 Ethernet 16-Bit card

Only ***$1089***

HIQ

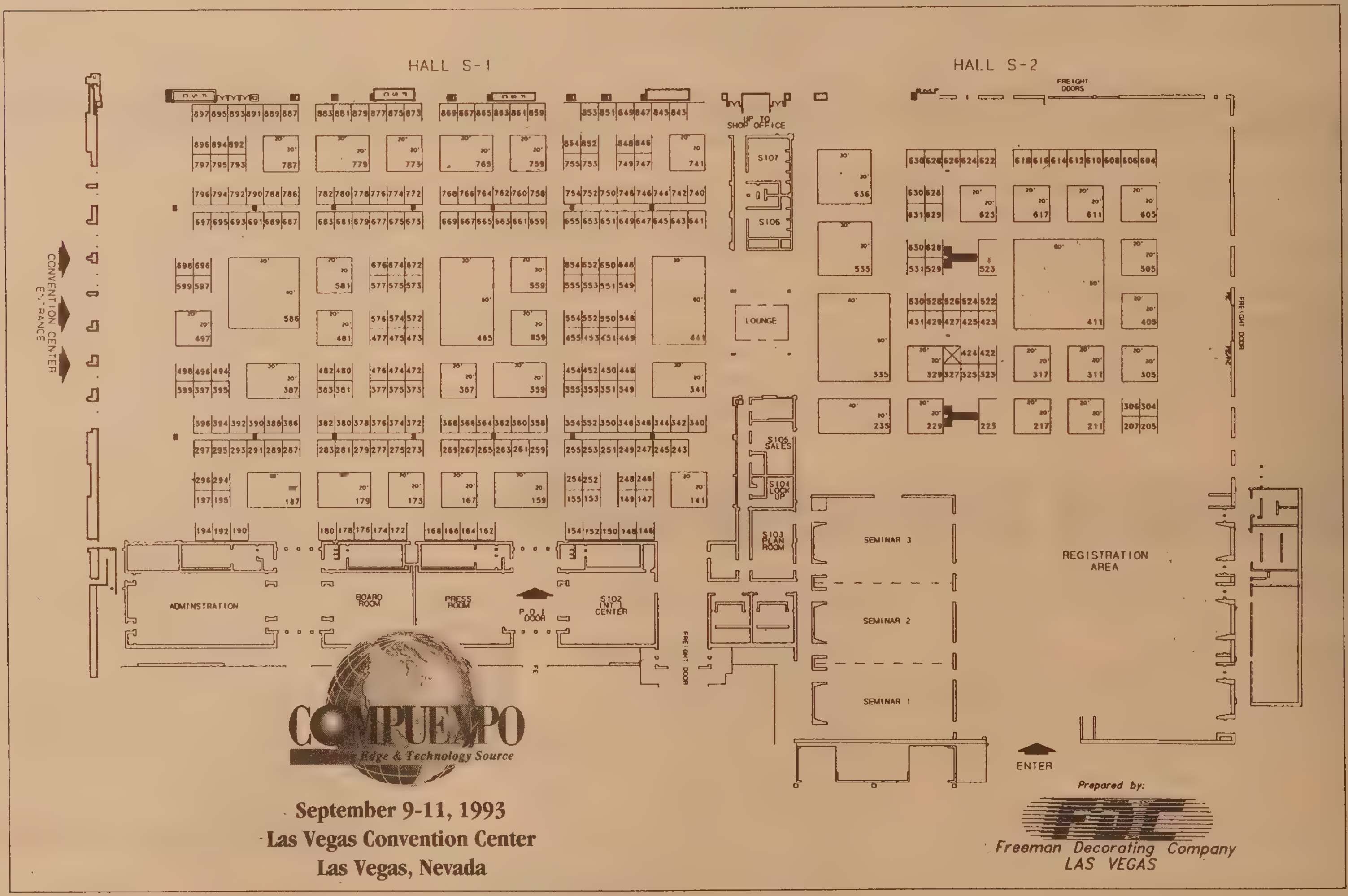
740 N. Mary Avenue,
Sunnyvale, CA 94086
(408) 245-5836
Fax: (408) 245-3108

Preview: COMPUEXPO '93

September 9–11, 1993
Las Vegas Convention Center

COMPUEXPO '93 is a one-stop resource for resellers, VARs, OEMs, system integrators, consultants, and MIS personnel trying to make wise decisions in a rapidly changing global PC marketplace. Exhibits and conference sessions—including the first-ever Energy Star Pavilion, featuring technology supporting the EPA's Energy Star Computers program—provide information and products from around the world, and help the computer professional make sense of emerging standards and platforms.

For registration and other information, call COMPUEXPO at 1-800-822-1229.


HALL S-1
HALL S-2
FREIGHT DOORS
UP TO SHOP OFFICE
S107
S106
LOUNGE
S105 SALES
S104
S103 PLAN ROOM
CONVENTION CENTER ENTRANCE
FREIGHT DOOR
SEMINAR 3
SEMINAR 2
SEMINAR 1
REGISTRATION AREA
ADMINISTRATION
BOARD ROOM
PRESS ROOM
P.O.I. DOOR
S102 INT'L CENTER
ENTER
COMPUEXPO
Edge & Technology Source
September 9-11, 1993
Las Vegas Convention Center
Las Vegas, Nevada
Prepared by:
FDC
Freeman Decorating Company
LAS VEGAS

COMPUEXPO '93 Exhibitor List (As of 7/27/93)

A. E. Home Corporation
Abest International, Inc.
ACER America Corporation
Achme Computer Products
Advanced Image Communications
Advanced Integration Research (AIR)
Advanced Micro Devices
Advantage Memory Corporation
Ambition Technology Co., Ltd.
American Digicom Corporation
American Megatrends Inc.
Ampo Technology Inc.
Angia Communications
Antron Technologies
AOC/ACT-RX
API Digital Color Prepress
Asian Sources Media Group
Asolid Computer Supply, Inc.
Athena Solution Inc.
Behavior Tech Computer
Beijing Melhua Co.
Biostar Microtek Intl. Co.
Brysis Data Inc.
BTC
C-2 Micro Systems
C-88
Caching Technology Corp.
CEIEC

Our Customers Come Back

AIR · MICRONICS · ORCHID · DIAMOND

Tech Trend Delivers:

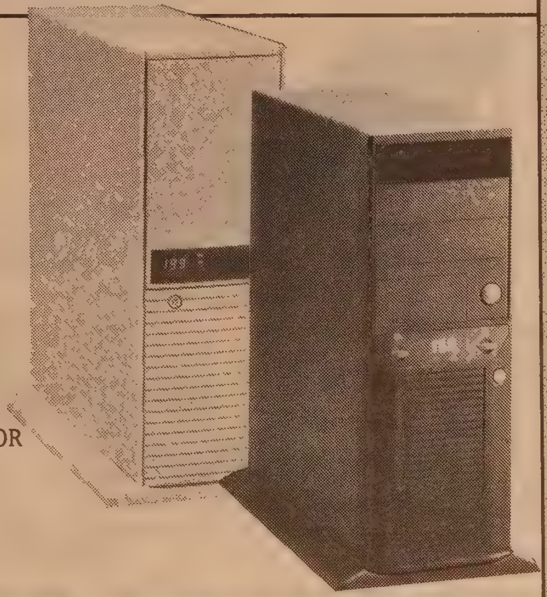
1. Lifetime Labor Warranty, 1 Year Parts
2. Lifetime Technical Support
3. We use only Brand Name Motherboard & Components
4. On-Site Service Available
5. Knowledgeable & Helpful Staff
6. No Surcharge for Credit Cards

Promotion Of The Month
True VESA Local Bus System

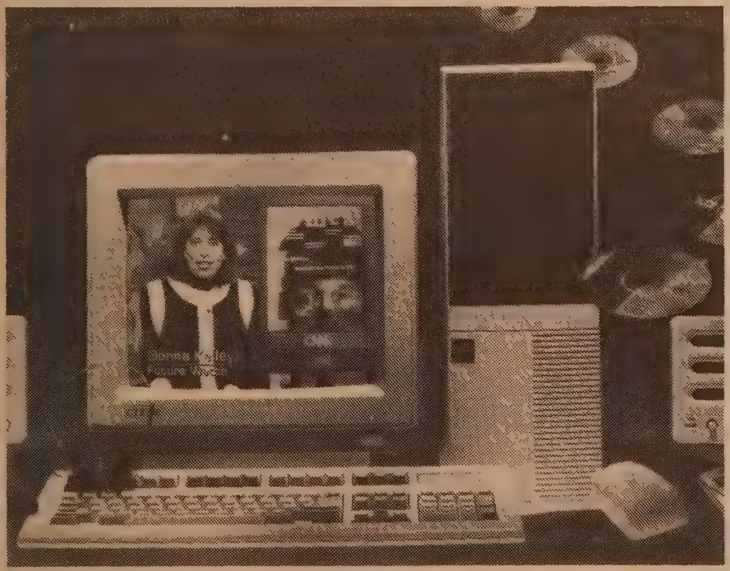
intel inside

- 486 Motherboard & INTEL CPU with 256K Cache P24
- 4MB RAM expandable to 32MB
- TEAC 1.2 & 1.44MB Floppy Drives
- 245MB Maxtor Hard Drive
- Spider VLB SVGA Card with 1MB-16Million colors
- 14" Non-Interlaced SVGA Monitor .28dp
- VLB IDE I/O w/2S, 1P, 1G
- Mid Tower Case 230W power supply, with Secured Door
- 101 Enhanced Keyboard

VLB 486DX-33 /256K..........$1450
VLB 486DX-50 /256K..........$1600
VLB 486DX2-66/256K.........$1675



Configure Your Own System! And We Will Build It For You



Multi-Media Package & True VESA Local Bus System

- 486 Motherboard & INTEL CPU with 256K Cache P24
- 4MB RAM expandable to 32MB
- TEAC 1.2 & 1.44MB Floppy Drives
- 245MB Maxtor Hard Drive
- Spider VLB SVGA Card with 1MB—16Million colors
- 14" Non-Interlaced SVGA Monitor .28dp
- VLB IDE I/O w/2S, 1P, 1G
- Mid Tower Case 230W power supply, with Secured Door
- 101 Enhanced Keyboard

Multi-Media Package Includes:

- Mitsumi CD-ROM, 350ms access time
- Stereo Multi-media Sound Card
- CD Software Bundle with 6 Titles

VLB 486DX-33 /256K..$1825
VLB 486DX-50 /256K..$1975
VLB 486DX2-66/256K.$2050

Brand Name Components Upgrades While You Wait!

Monitors

NEC 3FGe 15" 1024x768	$CALL
NEC 4FGe 15" 1024x768	$CALL
NEC 5FGe 15" 1024x768	$CALL
NEC 5FG 17" 1280x1024	$CALL
NEC 6FG 21" 1280x1024	$CALL
Viewsonic 6e 14" 1024x768	$CALL
Viewsonic 15 15" 1024x768	$CALL
Viewsonic 17 17" 1280x1024	$CALL
Viewsonic 20 20" 1600x1280	$CALL

VGA Cards

Spider VLB 1MB (up to 2MB)	$92
Orchid Fahrenheit VLB 1MB	155
Orchid Fahrenheit VA/VL 1MB	200
Orchid P9000 VLB 3MB	375
Diamond Speedstar pro 1MB	115
Diamond Stealth Pro 1MB	265
Diamond Viper VLB P9000 2MB	375
ATI Ultra Pro 2MB	365

Multi-Media

Toshiba XM-3401 SCSI Int	$425
Sony CD-ROM	185
Mitsumi CD-ROM	185
Gallant Sound Card 8C5000	115
Gallant Sound Card 8C6000	165
Speaker (80W) White/Black	80
CD Software (6 Titles)	85

Modems

Fax/Data Modem 96/24 Int	$50
Fax/Data Modem 96/24 Ext	55
Fax/Data Modem 14400/ 14400 Int	150
Fax/Data Modem 14400/ 14400 Ext	170

Cases

Mini Tower w/230W	$45
Mid Tower w/230W	65
Full Tower w/230W	95
Mid Tower w/Door 230W	92
Full Tower w/Door 250W	110
Mid Tower Black 230W	95
Full Tower Black 250W	115

Miscellaneous

Full Page Scanner 600dpi	$599
Colorado Tape Backup DJ-20	185
Teac 1.2 Floppy Drive	45
Teac 1.44 Floppy Drive	40

Memory ◆ Hard Drive ◆ CPU
Please Call for Updated Hard Disk/CPU/Memory Prices

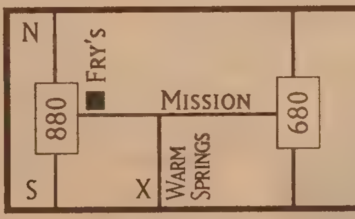
TECH TREND, INC.

48501 Warm Springs Blvd. Suite 106
Fremont, CA 94539
(510) 440-8324 ◆ Fax (510) 440-8326
(800) ASK-TECH or (800) 275-8324

See Us 7 Days a Week
Come See our Showroom
Mon-Fri: 10:30-7:30PM
Sat-Sun: See Us at a Local Computer Show Near You
Credit Cards Welcome

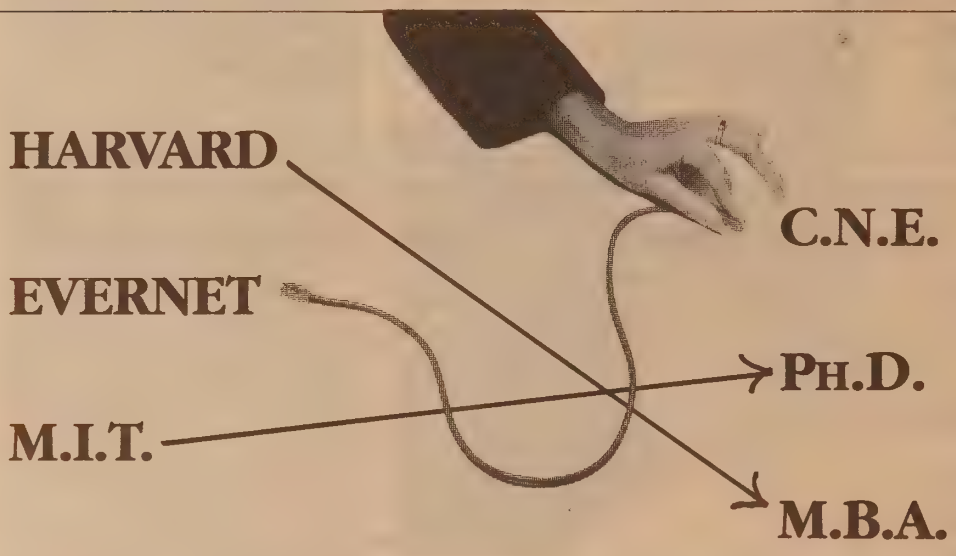
VISA · MasterCard · ATM

No Surcharge



Prices are Subject to Change without Notice
Not Responsible for Typographical errors

Champion Memory Products
Changjiang Factory
China Pavilion
China Trade Promotion
CMD Technology, Inc.
Comp-U-Check Inc.
Computech Corporation
Computer Currents Publishing
Computer Product Center
Computer Sources
Computer Technology Review
CQ 2001
CTX International
Diamond Computer
DFI
ECS
ERI
E-Tech Research Inc.
E-Toor Corporation
Easystor Intl. Corporation
EMPaC Intl. Corporation
En Bin Industrials Corporation
Epson America Inc.
F.E.C. (Far East Consultants)
Free Computer Technology
First Intl. Computer of America (FIC)
Forex Computer Corp.
Glitch Master Marketing
Glory Transwell Corp. (GTC)
Golden Pacific Elec., Inc.
Guangzhou Y.T. Co., Ltd.
GVC Technologies, Inc.
Handwriting Imaging Systems
Hayes Microcomputer Products, Inc.
Hooleon Corporation
IBM
IBM-Technology Products
InfoWorld Publishing Company
Ingram Micro
Integrated Computer Tech.
Intel Corporation
Isis Multimedia Co., Ltd.
Jabert USA Inc.
K.S. Brothers
KJH Enterprises Corporation
KYE International Corporation
Lectron
Link Computer Inc.
Lion America Corporation
Liuski International Corporation
M-Tech International
MA Laboratories, Inc.
Magitron USA, Inc.
Max Media Distributors
Megatron Systems, Inc.
Micro Products Center
Micros "R" Us
Microland Electronics
Microsoft Corporation
MicroTimes
Monterey Electronics
Multi Industry Technology
Nantong Yutai Co., Ltd.
Natl. Association of Systems Integrators (NASI)
Nationwide Warranty Corp.
National Business Information Center (NBI)
Orientec Corporation of America
Our Computer Player
Paradigm Microsystems Inc.
Pengo Computer Accessories
PicoPower Technology
PixoArts
Qtronix Corporation
Radix Corporation
Reseller Management
Rockford Engineering Services
Shenzhen Jambo Co.
Sichuan Xinchao Corporation
SIIG Inc.
Sixgraph Computing, Ltd.
Songtech International
Southcom Group, Inc.
Southern Calif. Chinese Computer Association (SCCCA)
SRT Lab
Sun Moon Star
Suncheer Intl.
Sundaynet Co., Ltd.
Sunny Wilson Enterprises Corp.
Symphony Laboratories
System Connection
Taipei Computer Association
Taipei Hsien Computer Association
Taiwan Products Company
Taiwan Zetatronic Industrial Co. Ltd. (TZT)
TCW


HARVARD
EVERNET
M.I.T.
C.N.E.
PH.D.
M.B.A.

MAKE THE OBVIOUS CONNECTION

If you are looking for the best way to learn all about the Novell Certified NetWare® Engineer degree, make it simple on yourself - call the leader - Evernet Education Services. Evernet Education is the most highly respected national LAN training company. Why? One reason is that we are part of Control Data Systems Inc. - the nation's premiere integration company. So you know you are getting instructors who bring the experience gained in thousands of successful installations into classrooms that are furnished with the finest equipment available.

Call today for all the details on the great new things that are coming up in this year.

We're so sure that you will get the finest training anywhere, we offer this guarantee on all of our courses. If an Evernet student fails to pass any of the certification testing, we welcome them back to review the appropriate course at no additional cost.

GUARANTEED CONTROL DATA SATISFACTION

Novell Authorized Education Center

CALL TODAY 1-800-447-3658

EVERNET
EDUCATION SERVICES
A Division of Control Data Systems Inc.
Los Angeles • San Francisco • Sacramento • Chicago

No One Beats Our Prices & Service!

Apple® On-the-spot Rebates.

Apple® Macintosh® PowerBook™ 165c

With a 33-MHz 68030 microprocessor and a 68882 math coprocessor, you can't get a more powerful computer. But what makes this great is the built-in color **display with 256 colors!** 4MB RAM & 80 MB HD.

Surprisingly Affordable

$2149.99
- 50.00 Rebate
$2099.99

Color and Power!

Apple® Personal LaserWriter® LS Printer

Probably the most affordable Apple® laser printer available today! At 300 DPI resolution and 4 pages per minute, you'll get professional quality laser printing at a great price!

Factory Authorized Close-out!

$565.99

Limited Quantity!

Apple® Macintosh® PowerBook™ 145B

The PowerBook™ 145B has a 25MHz 68030 processor and a bright full page-width display, for solid Macintosh® performance and flexibility. A superior choice for high-performance, low-cost notebook computing! 4MB RAM & 40MB HD

$1299.99*

Rock Bottom Price!

Save on Quality Printing!

Apple® LaserWriter® Pro 600 Printer

300-dpi resolution, it's the perfect choice for high-performance printing. Comes with 64 TrueType™ Fonts, 4MB of memory, and 100 & 250 sheet trays.

$1898.99
- 100.00 Rebate
$1798.99*

Best Buy!

The best deal in town!

Apple® Macintosh® LC II

CPU Factory Authorized Close-out!

The Macintosh® LC II, the perfect choice for education or business can be yours with 16 MHz 68030 processor with an Apple SuperDrive™, support for 7 SCSI devices, 2 serial ports, and built-in AppleTalk® for an out of this world price! CPU only. Monitor & Keyboard extra.

$799.99
4MB RAM & 80MB HD

$949.99
4MB RAM & 160MB HD

No one beats these prices!

Twice as fast as a IIci or IIvx!

Apple® Macintosh Centris™ 610 w/ CD-ROM Drive

With a 20 MHz Motorola **68040 chip**, Apple SuperDrive™, AppleCD™ 300i, Built-in LocalTalk® and AppleTalk® networking software, this computer can really perform! 8 MB RAM & 80 MB HD (# M1869 LL/A).

Monitor & Keyboard extra

$2075.00
- 300.00 Rebate
$1775.00*

Pick up the Bargain!

Apple® Personal LaserWriter® NTR

With 300-dpi resolution and Adobe™ PostScript™ printing capabilities, it's the exceptional value in a compact laser printer.

Price too low to print!

On-the-spot **rebates.**
On-target **solutions.**

Authorized Dealer

The Best of Both Worlds!

Apple® Macintosh® PowerBook Duo™210

The best of both worlds can be yours! Desktop power and notebook versatility are all available in this computer. No cables or networking software needed. It works with an advanced desktop docking station. 4MB RAM & 80MB HD.

$1398.99
- 100.00 Rebate
$1298.99

Save $100 on-the-spot

Multi-Media PowerHouse!

Apple® Macintosh® IIvx & CD-ROM Drive

32 MHz 68030 processor, 68882 math coprocessor, Internal Apple SuperDrive™, 3 NuBus™ slots, accelerator slot, an AppleCD™ 300i drive, and Future expandability make this computer a worthy buy! 5MB RAM & 80 MB HD.

Monitor & Keyboard extra

$1699.99
- 300.00 Rebate
$1399.99*

Sale Subject to Stock on Hand!

Apple, the Apple logo, AppleTalk, LaserWriter, LocalTalk, and Macintosh are registered trademarks of Apple Computer, Inc. AppleCD, Apple SuperDrive, Macintosh Centris, PowerBook, PowerBook Duo, System 7, and TrueType are trademarks of Apple Computer, Inc. Classic is a registered trademark, licensed to Apple Computer, Inc. NuBus™ is a trademark of Texas Instruments. Adobe™ and PostScript™ are trademarks of Adobe Systems Incorporated, which may be registered in certain jurisdictions.

HP DeskWriter C Printer

Best Price!

- 300 dpi
- Quality COLOR printer
- 100 sheet paper tray

$435.00

HP LaserJet 4L Printer

HEWLETT PACKARD
Authorized Dealer

- 300-dpi laser printing with Resolution Enhancement technology and microfine toner for smooth, sharp text and graphics

Affordable Quality!

$689.99

HP DeskJet 500C printer

- Affordable laser-quality printing
- Allows 300-dpi COLOR printing on plain paper & transparencies
- Wide variety of built-in fonts

Don't pay more!

$479.00

COMPUTER SELECTION

Redwood City
(415) 368-8828
2001 Middlefield Road
(at Woodside Rd , by Price Club)
M-F 9:00 - 5:30 Sat 12-5
Fax: (415) 368-8803

San Francisco
(415) 543-9888
201 Mission Street
(across from PG.& E Hdqtrs)
M-F 9:00 - 5:30 Sat 10 - 4
Fax: (415) 777-1177

Sunnyvale
(408) 746-2288
1202 Apollo Way
(at Central & Lawrence)
M-F 9:30 - 5:30 Sat 12-4
Fax: (408) 746-2208

Walnut Creek
(510) 943-2882
1676 N. California Blvd
(next to Max's Opera Cafe)
M-F 9:00 - 5:30 Sat 12 - 5
Fax: (510) 943-2890

*APPLE® REBATE ENDS SEPTEMBER 30, 1993. All sales subject to stock on hand. Not responsible for errors or omissions. Sales price good for one week from date of advertisement.

• IBM • SANYO • LEADING EDGE • DTK • SPERRY • AST • WYSE •
TATUNG • PANASONIC • ZEOS • SHARP • NORTHGATE • HYUNDAI • AST •
GATEWAY • EPSON • TANDY • DELL • NCR • EVEREX • COMPUADD • NEC •

ROM BIOS UPGRADES
Solve Your Compatability Problems!

AMI • PHOENIX • MR BIOS • AWARD
8 Years of experience, unmatched in the industry

WE STOCK THE LARGEST VARIETY OF ROM BIOS UPGRADES IN THE WORLD.

SPECIAL OFFER If you live in So. Cal, we'll install your new BIOS chip FREE – Just call for an appointment and our technicians will ALSO evaluate your system at no charge. It's worth getting to know us as you source for:
• MEMORY UPGRADES • MOTHERBOARDS
• BIOS Reference Manuals • DIAGNOSTIC PRODUCTS

• WE WILL BEAT ANY ROM BIOS COMPETITORS PRICE-CALL US TODAY!

• FREE Catalog • FREE Chip puller • FREE Tech support • Volume Discounts • Univ.&Corp. POs Welcome • Same Day Shipping • DEALERS WELCOME - Call for special pricing, free bios resellers kit • Authorized Micronics BIOS Distributor

FEATURES OF A NEW BIOS
• Support, 1.2MB, 1.44MB & 2.88MB floppy drives • Faster I/O Speed • DR DOS Support • Complete setup in ROM • Windows 3.1 support • Novell support • DOS 6.0 Support • IDE drive support • OS/2 support • Support for 47 different hard drives, plus 2 user defined • Virus & password protection • and more !!!

SmartMicro
TECHNOLOGIES, INC.

FAX (805) 371-0012 ORDER (800) ROM BIOS (800) 766-2467 TEL (805) 371-0055
143 TRIUNFO CANYON ROAD, SUITE 103 • WESTLAKE VILLAGE CALIFORNIA 91361

• ACER • SAMSUNG • KAYPRO • COMPUADD • PACKARD BELL •

YOUR CONNECTION SOLUTION
FREE CATALOGUE
Call Today To Get Yours!

Clearance Specials
UL approved printer cables starting at $.94
3 ft Mac/SCSI $1.60
Data Switch Box, DB 25 AB $4.25
Auto Data Switch $7.50
Power Pad $11.00
Power Strip ..... 6 outlet $2.50
Mouse Adapter .... $.63
Monitor Arms $23.00
Keyboard Drawer $14.00
Mouse Pad .... $.70
Minimum Order $100.00

Vaster Electronics is a world leader in cabling, network connectors and computer accessories. We manufacture and stock the largest inventory of connection equipment anywhere and sell it at unbeatable prices.

CALL NOW AND ASK FOR OUR FREE CATALOGUE.
TEL: (408) 985-5950
FAX: (408) 985-9452

VASTER ELECTRONICS TECHNOLOGY CORP.
VASTER TECHNOLOGY
1176 Aster Ave., Suite E
Sunnyvale, CA 94086

COMPUEXPO
Marketing Edge & Technology Source

TEAC America, Inc.
The ASCII Group, Inc.
Top Computech Co., Ltd.
Toptek Microcomputer Inc.
Tyan Computer Corp.
Uniq Technologies
Universal CPS Intl., Inc.
University Computer Stores
Vastor Electronics Technology Corp.
Visi-Tron/J.W. Harbin
Western Digital
Wintec
World Journal
Xircom
YC Cable
Zaptech Int'l. Corporation

COMPUEXPO SEMINAR PROGRAM

(As of 7/27/93)

Thursday, September 9

9:30–10:30 am
KEYNOTE - Paul Otellini, Vice President, Microprocessor Group, Intel Corporation

10:45 am–12 noon
Energy-Efficient PCs—An Opportunity You Cannot Afford To Miss
William C. Jackson, Chair, *President & CEO, Technology Marketing Partners*
How to take advantage of the rapid transition to "green" PCs. An ideal reseller opportunity.

Panelists include:
Brian Johnson, Director, Energy Star Program, EPA
Bruce Campbell, VP, Sales & Marketing, PicoPower Technology
Avery Lovins, Environmentalist, Director, Rocky Mountain Institute
Darwin Chang, Vice President, Elitegroup Computer Systems

12:15–1:30 pm
Direct Sourcing From Asia
Dr. Tai-Yang Hwang, Chair, Vice President, *Chairman, Institute for Information Industry*
How to do business directly with high-volume, price-aggressive companies in the Pacific Rim.

Panelists include:
Representatives from ACER, FIC, Mitac, Compac, Sun Moon Star

1:45–3 pm
Fifty-Three Ways to Improve Sales, Reduce Costs, and Just Make More Money
Stan Rosenzweig,President, *Office Technology Consult. Inc.*
This audience participation seminar will cover the good, the bad and the ugly in today's selling environment. It will improve your direct mail response, tighten your telemarketing presentations, shorten your selling cycle and teach you how to build a better marketing machine with less wasted effort. Mr. Rosenzweig is an award winning sales and marketing contributing editor of *Reseller Management Magazine.*

--Since 1986

The Super Link

MON-FRI: 9AM - 6PM
SAT: 10AM - 4PM
CREDIT CARDS WELCOME

3537 Kifer Road. Santa Clara, CA 95051 Tel: (408)-733-2558 Fax: (408)-733-3890

CPU Cooling Fan

For only ** $15 **

MONITOR

HITACHI

CM1584MU 15"
SuperScan 1024x768 72Hz
Flicker-free, None-interlaced
Anti-static, Anti-glare
Low ELF&VLF EMISSION
(50-100Hz) refresh rate
MPRII Standards

$475

SPECIAL OF THE MONTH

MultiScan

14" 1024x768 0.39 $208
14" 1024x768 0.28 $240
14" 1024x768 N-I .28 $258
15" 1280x1024 0.28 $379

GREEN PC MONITOR is now available! NANAO Automatic Power ON/OFF with the PC function.

NANAO F760IW (21") $2055
F550IW (17").....$1075
F340IW (15").....$665

Viewsonic 20" $1755
17" $1095
15" $535

6FS $515
5+ $475
5E $375
6E $309
4E $285

Addonics C143 NI .28dp $300
C142 I .28dp $255

TAPE BACKUP

Colorado 120MB (DJ-10) ..$145
250MB (DJ-20) ..$185
Tape $19.99

KEYBOARD

Keyboard w/Trackball...$65
Focus 9000/8000 ....$79/42
Omni Ultra.................$95
Omni 101 /102............$65
Fujitsu 4700/4850.........$45/32
Keytronics 101............$35
Maxi 101.....................$33
Click 101.....................$26
BTC 5339SX 101..........$21
BTC 5100 Small Size.....$34

MOUSE & TRACKBALL

Pen Mouse $22
Easy Mouse $12
Logitech Serial and Bus Port
Mouse $65
Logitech First Mouse $37
Microsoft Mouse $89

MAKE YOUR OWN SYSTEM

We'll make your system work.
Give us your configuration,
we build it for you.

NOTEBOOK

Note Book
Now Available

486DX-33 ....$1460

VIDEO CARD

VESA Local Bus
ATI VLB w/2MB.............$345
Orchid Fahrenheit 1280+......$155
Diamond Stealth....................$165
Genoa $115
Cirrus logic w/1MB upgradable
to 2MB...............................$89
ET 4000 w/1MB $80
ET 4000 W32 w/1MB $105

ISA
Orchid Fahrenheit 1280 w/1MB-V$179
Orchid Fahrenheit w/1MB DRAM..$140
Paradise clone SVGA /1MB........$72
w/window accelerator...............$89
Trident SVGA w/1MB/512K.....$59/35
VGA w/256K $27
MGP w/ Printer Port $15
Cirrus 1MB w/Win accel./16.5M Color
......................$69

CASE

Dual Fan Full Tower 230W UL.$149
250 / 300W UL..........$154/175
10 Bay Full Tower 230/300W...$109/133
9 Bay Full Tower 250/300W.....$109/123
8 Bay Mid Tower 230W..........$75
5 Bay Mini Tower 200W.........$55
Baby AT /230W Pwr $59
External FDD/HDD Case $79
...../$129/149

POWER SUPPLY

300W UL for Tower.............$69
250W UL..........................$54
230W UL..........................$49
230W UL PS-2....................$43
200W UL XT Size................$45

BLK CASE, KB, & MOUSE

Black Full Tower 250W.........$135
Mid Tower 250W..........$119
Mini Tower 200W.........$77
Black BTC Keyboard $33
BTC 5100 Small............$36
Black Mouse $17
Black Monitor 1024x768 .28dp
Interlaced\Non-Interlaced........$285/315

MODEM

2400 B Modem $32
2400/9600 Fax /Modem $59
2400/9600 Fax /Modem Pocked .$99
9600/9600 Fax /Modem $159
14400/14400 Fax /Modem $169

Prices are subject to change without notice
Freight and labor are not refundable including reject.

MOTHERBOARD

MICRONICS EISA VESA

Built-in IDE w/I/O, w/ZIF socket, w/256K & CPU, Cont. 2.88 FDD
486DX-33 ....$905
486DX2-50 ....$999
486DX2-66 ....$1105

VESA Local Bus Board

Micronics w/CPU /IDE I/O
486DX2-66 /256K ..$855
486DX-33 /256K $635

Orchid w/CPU 256K Cache
486DX-33/50 ....$479/639
486DX2-66 ....$689

VLB (OEM by IBM)
486SLC2-50
w/CPU 64K Cache...$295

Free (Genoa OEM)
no CPU /256K $145
w/ ZIF Socket $155

AMI EISA VESA BOARD

w/ZIF & w/math-co socket, memory up to 256MB
486-33 w/256K, CPU $849
486-50 w/256k, CPU $999
486DX2-66 /256k,CPU ..$1079

TSL EISA VESA BOARD

486DX/DX2-256K W/O/CPU
3-EISA/3-ISA/2-VESA Slot
Main Board $215

ISA BOARD

486DX/DX2 Main Board
(OPTI) w/128K no CPU $95
486 SX-33 /64K w/CPU ...$285
3486 Board w/128k 386-40 CPU
Upgradable to 486 ....$165
386SX-33 w/ CPU $89
386SX-40 w/ CPU $105

WS CONTROLLER

*FIS...............................$85.00
7SCSI/CD-ROM/2IDE HD/4FD
*SUPER IFSP2............$79.00
2HD/4FD/3S(2 16550)/2P/S
*IDE2.........................$49.00
2HD CO-EXIST:
MFM,RLL,ESDI,SCSI
*IDE4A-2.88.................$45.00
2HD/4FD SUPT. 2.88FDD
*IDE8-2.88...................$85.00
4HD/4FD SUPT. 2.88FDD
CO-EXIST: MFM,RLL,ESDI,SCSI
*IDE8..........................$65.00
4HD/4FD CO-EXIST:
MFM,RLL,ESDI,SCSI

CONTROLLER

KW VLB IDE w/2 Hi-speed Serial/parallel Supt. 2.88 ...$75
Winbond VLB IDE I/O $37
DTC VLB IDE I/O $79
IDE 4F/2H/2S/P $39
IDE 4F/2H $32
IDE 2F/2H/2S/P/G $17
IDE 2F/2H $12

I/O CARD

High Speed 2S/P/G $45
High Speed 16550 2S/P/G ..$55
2S/P/G..........................$15
2S/2P............................$22
Serial............................$10
Printer $9
Game $11

PRINTER

Canon BJ - 5..........$185

Panasonic KX-2123 ...$189
KX-1124i...$209
KX-1123....$165
2nd Inventory 2yr warranty

HARD DISK

Maxtor 345MB $319
245MB $249
130MB $195
Conner 80MB $169
60MB $125
SCSI 676MB Maxtor ..$949

FLOPPY DRIVE

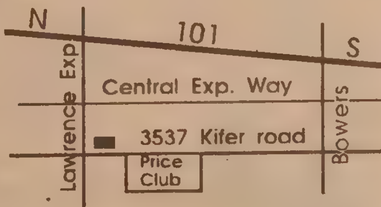
Teac Combo 1.2&1.44 .. $125
Teac 2.88MB $88
Toshiba 2.88MB............$58
Teac 1.2 MB.................$48
Teac 1.44 MB $38
Mounting Kit $4

HOT CD TITLES

- * Space Quest IV $37
- * Dinosaur Adventure $40
- * Family Choice $35
- * Family Doctor $31
- * Comptons MPC Encly ..$97
- * Carmen San Diego $35
- * Animals V1.0 ....$27
- * Jones in Fast Lane MPC $31
- * King's Quest V. $31
- * Kodak Photo CD Access $30
- * Mayo Clinic Family $35
- * Mixed up Mother Goose MPC, Dos $35
- * Monkey Island $32
- * Sherlock Holmes $23

CD ROM DRIVE

Panasonic 522 ....$215
562 ....$255



THE COMPUTER AND NETWORK SPECIALISTS

PC Professional, Inc.

Sales • Service • Training • Hardware • Software • Networks

We offer:

SALES
- Computers & Laptops
- Printers & Monitors
- Network systems
- Modems & Faxes
- Scanners & Plotters
- Tape backups & CD ROMs
- Large Software selection

SERVICE
- Consulting
- Design
- Integration
- Delivery & Installation
- Personalized training
- On-site & in-house training
- Warranty & non-warranty repair

SUPPORT
- 4-8 hour response
- Loaners
- Phone support
- Authorized service dept.
- Full time tech. support
- 6 CNEs
- Service contracts

√**Macintosh Centris 650**
25-MHz 68040 processor
4MB RAM (expansion to 132MB)
$ CALL
- MAC Classic
- MAC VX
- MAC Quadra
- MAC Powerbooks
- Newton MessagePad

COMPAQ
√**Compaq Prosignia**
Intel 33-MHz 486 microprocessor
32-bit system memory (expansion to 128MB)
$ CALL
- Prolinea
- Deskpro
- Systempro
- Contura

DELL
√**Dell 466/M**
i486 DX2 "speed doubler" microprocessor running at 66/33 MHz
4 MB RAM (expansion to 64MB)
$ CALL
- Dell 486/L series
- Dell 486/T series
- Dell 486/ME series
- Dell notebook

digital™ business partner
√**Digital MT**
Industry-standard i486 processors
4MB RAM (expansion to 64MB)
$ CALL
- Digital ST
- Digital LP
- Portables
- Pathworks

HEWLETT PACKARD
√**HP Vectra VL**
33-MHz 486DX microprocessor
4 MB RAM (expansion to 32MB)
$ CALL
- HP Vectra 486U
- HP printers
- HP scanners

IBM Business Partner
√**PS/Valuepoint 433DX**
33MHz i486 DX microprocessor
4 MB RAM or 8 MB RAM
(expansion to 32MB)
$ CALL
- PS/2
- Spacesaver
- Desktop
- Mini Tower
- Thinkpad

Novell Platinum Authorized Reseller
√**NetWare 3.11**
5, 10, 20, 50, 100 & 250 user versions
Connects all your computer resources
$ CALL
- NetWare 4.0
- SAA
- NAS

intel®
√**StorageExpress XLE**
Network backup solution
$ CALL
- StorageExpress XLD
- StorageExpress ELD
- LANDesk

Plus: AST, DTK, Epson, NEC, Okidata, Samsung, Toshiba and more

Serving the entire Bay Area for the past 12 years

THOUSANDS OF PRODUCTS AT LOW, LOW PRICES EVERYDAY!!

SPECIALS!! INCREDIBLE SAVINGS!!

The Full Service Source for All Your Computer Needs!

Call PC Professional today for a FREE consultation or brochure

PC Professional, Inc. (510) 465-5700
1900 Webster St., Suite B, Oakland, 94612 Fax:(510) 465-8327

COMPUEXPO
Marketing Edge & Technology Source

3:15–4:30 pm
PCMCIA and Its Role with Energy-Efficient Computer Products:
John Reimer, Chair, *Chairman, PCMCIA*
A panel discussion of PCMCIA as a new, emerging technology and how it supports the growth of the "green" PC.

Panelists include:
Hans DeBruyn, Chair, PCMCIA Committee, IBM Canada
Leon Malmed, Vice President of Worldwide Sales & Marketing, SunDisk
Cynde Magidson, Xircom
Dan Sternglass, DataBook

Friday, September 10

9:30–10:30 am
KEYNOTE - John Osborne, OS/2 OEM Worldwide Director, IBM Corporation: "Software Trends in the '90s"

10:45 am–12 noon
Multimedia in Corporate America
Dr. Clive Liu, Chair, *President, PixoArts*
An in-depth look into the current growth of and market for multimedia products in the corporate computing environment.

Panelists include:
Keith Walker, Product Manager, Eastman Kodak
Ash Jain, Executive Vice President, Workstation Technologies, Inc.
Damon A. Dean, Market Development Manager, Multimedia World Magazine
Mark Roussey, IBM PC Multimedia Manager, Graphix Zone
Yancy Lind, Director of Marketing, Alantec.

12:15–1:30 pm
The Changing Face of Internetworking: Choosing your PC Platform

Panelists include:
Gary Law, Synoptics
Tony Sabatini, Consultant
John Rusener, WilTEL
Mike Hulme, Zilog

1:45–3 pm
Emerging Brand Supplier-Reseller Roundtable
Alan Weinberger, Chair, *CEO, The ASCII Group*
An open discussion on what resellers look for when they decide to do business with a new supplier in an emerging brand or emerging technology category.

3:15–4:30 pm
Technology Trends in the PC Industry
Mary Eisenhart, Chair, *Editor,* MicroTimes
Learn about CPU platforms and advanced operating systems, and the marketing, pricing, and sourcing issues involved in choosing a vendor.

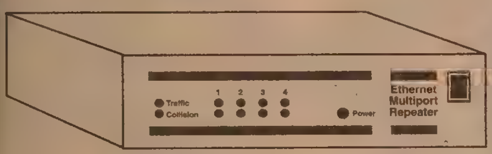
Panelists Include:
Bob Gregory, Strategic Marketing Manager for IMD, Intel Corporation
Representative TBA, Microsoft
Farhad Maffie, Staff Application Engineer, Toshiba America
Representative TBA, NeXT Computer Inc.

TANSTAAFL

DIFFICULT TO SAY - EASY TO USE - ECONOMICAL TO BUY

SINCE 1978

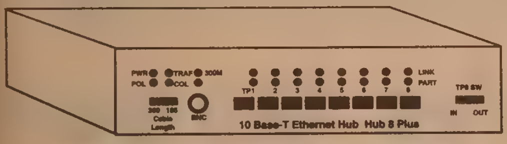
NETWORKING



REPEATERS

Ethernet Repeaters
- BNC and AUI connectors for each port.
- Activity and Partition indicators for each port.
- Automatic preamble generation.
- Auto partitioning on Net failure.
- Traffic and collision indicators.

#ETMPR2 2 port repeater —$379
#ETMPR4 4 port repeater —$549



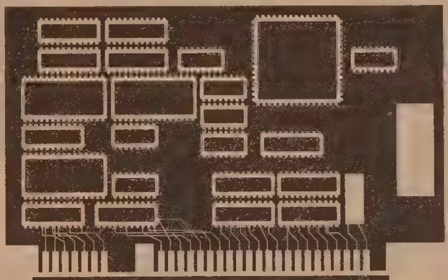
HUBS

9 Port Concentrator
- 8 UTP ports, 1 BNC port.
- Full diagnostic LED's for link integrity, Partition, Activity, Collision, Reverse Polarity, and BNC 300M.
- Supports 185 and 300 Meter Thin Coax.
- Low Cost!

ER6390 Sale Priced @ - $279

14 Port Concentrator
- 12UTP, 1 BNC, 1 AUI ports (10 Base 2/5T)
- Status LED's for traffic, collision, fifo error, MAU lockup, partition, and twisted pair link.
- Rack mountable.
- Crossover UTP port for linking to other Hubs.

#HUB-II Sale Priced @ -$595
#ER6391 ——————$495
same as above W/O cross over



PC INTERFACE CARDS

8 Bit 10 Base T
- Novell NE1000 compatible
- Multi Packet Buffer
- Very low cost

#1000T on Sale @ --------$55

8 Bit Coax
- Novell NE1000 compatible
- BNC and AUI connectors
- 8K Multi Packet Buffer

#1000C on Sale @ -------$55

16 Bit 10Base T
- ***NOVELL LAB CERTIFIED***
- Novell NE2000 Compatible
- Status LED's and lots more

#2000T on Sale @ --------$59
Lifetime Warranty

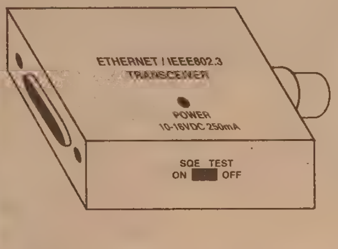
16 Bit Coax
- Netware, PC/tcp,PC-NFS, NCSA, NDIS Compatible
- ***NOVELL LAB CERTIFIED***
- BNC and Coax connectors

#2000C on Sale @ --------$59
Lifetime Warranty

LOW COST INTERFACE CARDS

32Bit VESA LOCAL BUS COMBO
- BNC, VTP, AVI
- 50MHz SPEED LOCAL BUS IT SCREAMS!
- INTEL 82586 CA Controller
- Netware ODI, SCO, UNIX & NDIS drivers

Priced well below market value——$379



TRANSCEIVERS

10 Base T MAU
- Complete AUI to UTP Link
- Selectable Link and SQE tests
- 6 Status LED's

#2010-TP Sale Priced @ ----$49

10 Base 2 Coax MAU
- Complete AUI to Thin Ethernet transceiver
- Selectable SQE test
- up to 600M without a repeater

#2010-BNC Sale Priced @ —$49

FOIRL MAU
- Its loaded call for details

#ET-300F ———————$395

Miscellaneous Items

10 BASE 2 Cables		Qty 1	Qty 10	Qty 50	Qty 100	Qty 1000
R5810	Patch Cable RG58U 10'	$4.80	$4.40	$3.90	$3.75	$3.60
R5825	Patch Cable RG58U 25'	$10.00	$9.25	$8.50	$7.50	$6.20
R5850	Patch Cable RG58U 50'	$18.00	$17.25	$16.50	$15.50	$14.50
BC58	Patch Cable RG58U 1000'roll	$68.00	$66.00	$65.00	$63.00	$62.00
Connectors & Splices						
C58T	Connector Twist-On RG58	$2.25	$1.85	$1.15	$.95	$.90
C58C	Connector Crimp-On RG58	$2.05	$1.75	$1.05	$.95	$.90
TFFM	BNC Adapter T type M/F/F	$3.00	$2.40	$2.20	$1.60	$1.20
CFF	BNC inline splice F/F	$1.20	$1.08	$.80	$.70	$.60
Term50	50 Ohm Terminator 1%	$3.00	$2.90	$2.50	$2.40	$2.10

POCKET ETHERNET ADAPTERS

10 Base 2
- Compatible with Net Ware, LANtastic, TCP/IP, and PC-NFS
- Diagnostic Leds for Power/Xmit and Host activity

#PE300B——————$159

10 Base T
- Compatible with Net Ware, LANtastic, TCP/IP, and PC-NFS
- Diagnostic Leds for Power/Xmit and link/rev, collision, and Jabber

#PE300T——————$159

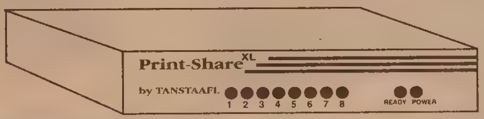
ECONOMICAL PRINTER AND PERIPHERAL SHARING

Print-Share
by TANSTAAFL
1 2 3 4 5
READY POWER

LOWEST COST MULTI-PORT

- 4 serial and one parallel ports
- Easily share one or two printers
- Cables included for easy installation
- 256K Buffer memory expands to 1 Meg.

#PS-2 Reg. $299
SALE PRICED AT————$199

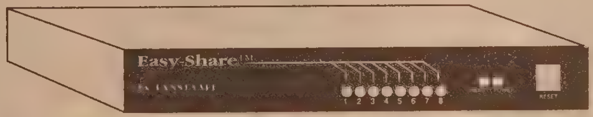


8 PORT SERIAL

- Supports 1 to 4 printers.
- 256K Buffer expands to 4 Meg.
- Cables included for easy installation
- 2 year warranty.

#XL-1 Reg. $399
WE'RE OVERSTOCKED!
CLEARANCE PRICE

$299



8 PORT SER/PAR

- Available in any combination of serial or parallel ports.
- Expandable up to 56 ports.
- 256K Buffer expandable to 4 Meg.
- Too much more to list. Call for our catalog.

9 Combinations all Reg. $895 SALE PRICED AT--$495

Don Medley
President and CEO

We are very proud of our "hard won" reputation for delivering outstanding values in high performance printer and peripheral sharing devices. Literally hundreds of our customers have called or written to tell us how easy our products are to install and to use. Perhaps a true measure of their performance and value is that we receive more orders from repeat customers and customer referrals than we do from our advertising.

We design, engineer, manufacture and quality assure our print and peripheral sharing devices. We design and quality assure our networking products to the same high standards, but to save our customers money this line is engineered and manufactured by others to our specifications and carries our same money back guarantee.

Our sales and technical staff will help you select the right combination of products to deliver the highest possible performance for the lowest possible cost. All Tanstaafl products carry are fully warranted for two full years from the date of your purchase and come with unlimited toll free technical support.

Please call us today, we look forward to serving you.

800-776-5676, FAX 408-748-9431, TEL. 408-748-9330

STAR: THE NEXT GENERATION MS-DOS
IRON HELIX MAC CD-ROM
IRON HELIX MAC CD-ROM

Se

or, Business As Usual

Photos: Michael Jay (Gilman Louie); courtesy of Spectrum HoloByte (screens)

ious Fun

AN INTERVIEW WITH GILMAN LOUIE

By Mary Eisenhart

"My new residence is the airplane," sighs Spectrum HoloByte Chairman Gilman Louie, newly returned from conferring with some virtual reality-arcade associates in the UK. Only a few days before, he'd been at the Technologic Partners Interact conference, regaling venture capitalists and other interested bystanders with charts showing the company's massive inroads into the Sega-Nintendo market, its recent acquisition of Bulletproof Software (purveyor of cartridge classic Yoshi's Cookies) and its current negotiations to acquire longtime flight-simulation rival Microprose, and its far-reaching alliance with Paramount to develop Star Trek: Next Generation products from 3DO games to total-immersion virtual reality parlors.

Louie's life has been anything but restful since at least 1982, when he and a bunch of his SF State fraternity brothers graduated, found themselves unemployed, and decided to go into business writing computer games. They called the company Nexa and set up shop on his parents' kitchen table.

"Nexa was a development house," says Louie. "We developed most of our games for the Atari, the Commodore 64, the Apple II, and did a lot of work with the Japanese, specifically for Ascii Microsoft of Japan on the MSX computer.

"We had developed this game called F-16 Fighting Falcon for the Japanese market. And Paul Saffo, who's a friend of mine, and kind of an advisor, showed it to Stewart Alsop and told Stewart we should get this Colorado publisher and this San Francisco developer together because this should be on American computers."

"This Colorado publisher" was Spectrum HoloByte, which was enjoying great success with its WWII submarine simulation Gato. "So in '85," Louie continues, "we had a contract to develop Falcon for the Macintosh and the PC. In 1986, as a developer I found out that Spectrum HoloByte was looking to raise capital or sell itself to a big publisher. They were talking to two companies primarily—Mindscape and Activision.

"And I said, 'I don't think you want to do that,'" he laughs. 'Maybe we should just write a joint business plan. And if you want to do it afterwards, fine. But if we fill out this business plan maybe there's an opportunity, because there's never been a real good developer merging with a real good publisher to form an all-underneath-one-umbrella scenario to run a software company—come up with the ideas, build it, market, and sell it.'"

So the two companies put together a plan, showed it to a lot of people, and after assorted interesting experiences ("We didn't know how good this business plan really was until somebody told us they were willing to pay us a quarter million dollars to lose it!" Louie recalls gleefully) found themselves talking to Kevin Maxwell, son of Robert.

"It was kind of an interesting day," he says, "because Kevin's wife was having their second child, giving birth *that moment*. So on July Fourth, he's meeting with me, he gets a telephone call, he has to cut the meeting short because he has to run off to the hospital.

"The next day Kevin calls back and says he wants to do the deal, and that he would buy Spectrum HoloByte and buy Nexa merge the two together, put [Spectrum cofounder Phil Adam] and myself in charge, I as the CEO and Phil as the president; call it Sphere Inc.; and finance up to $8 million in lines of credit to get this company going.

"Over a period of the next four to five years, the company started its rapid growth. Lots of good stories, lots of bad stories in there." Among the good stories was the company's decision to augment its

> **"Today's users are much more sophisticated. A lot of it has to do with the power of these machines—even the Super Nintendo and Genesis boxes are relatively powerful. The Genesis is as powerful as the first Macintosh to hit the marketplace."**

line of flight simulators with an unknown Russian product called Tetris. But things didn't go exactly as planned, largely because the Maxwell empire didn't really know what to do with an entertainment software company. Sphere rolled around the org chart, at one time finding itself reporting to MTV Europe. "That was okay," Louie explains, "because there finally were some executives who understood what we were trying to build. We came up with this business plan of growth in the cartridge business, and acquisitions, and a variety of other things.

"Before we could implement the plan, of course," he continues, "Robert Maxwell fell off the boat. And he took everybody with him.

Months of chaos ensued as Louie and concerned would-be investors tried to extricate the company from the Maxwell debacle, a process complicated by the fact that, as Louie puts it, "It took us eight months to figure out who really owned us." Finally, last year a group including VCs Kleiner Perkins Caufield and Byers, Silicon Graphics chairman and founder Jim Clark, as well as AT&T and Stanford University, managed to buy controlling interest and reestablish Spectrum HoloByte as a private company. Another interesting investor these days is Paramount.

We took advantage of a moment of relative tranquillity to check in on current developments.

You've got a pretty diverse group of investors—AT&T and Jim Clark and Kleiner Perkins and Paramount... So what is the plan that these guys all fit into?

I think the view is that computer/cartridge, interactive entertainment going into the home is a rapidly growing industry. It's going to go from five billion, where it is about now, to fifteen or twenty, depending on who you talk to, over the next few years.

And this technology we're building has a lot of elements in other people's markets. AT&T is very interested because they see themselves as a global provider of telephone communications, and this consumer part of the business is very interesting to them. They perceive that entertainment really pushes the edge of the hardware, and they can take that and grow a great consumer business out of it, as well as the spinoff technologies.

Paramount was interested in that their business is basically flat—the movie business is flat, the rental business is flat. They see interactivity as the next great thing. They know from their previous experience at Simon and Schuster Software Division that this is a business that you can lose a lot of money in, so it probably would be cheaper to back a smaller company financially, learn from that smaller company, and if it's really, really successful, maybe buy them or work out joint ventures with them. This was a low-cost way to invest in a technology company and learn a lot about this business. So that's why Paramount came in.

Kleiner Perkins are investors in 3DO and Crystal Dynamics as well as ourselves. Historically they were involved with Electronic Arts, and they said, "Hey, we did EA under the distribution model; I wonder if there's a publishing model, a development/publishing model that a software company can be built under?" and decided to invest in us.

And of course Jim is building his little box that will hook up to cable and television, so he's very interested in this area.

I think everybody else in the past six months got into investing in us because of the big media push—as you can see in the last six or seven weeks, all the covers and stories being run by all the major magazines on *Interactivity!* [*laughs*] They said, "What's the best example of interactivity? Computer games!" That's how they all arrived at this particular point.

As one of the relatively few companies to have survived the first home computing boom and gotten to this point, what's different and what's the same?

What's different is that the expectation of quality in the software is much higher today. The users are much more sophisticated. A lot of it has to do with the power of these machines—even the Super Nintendo and Genesis boxes are relatively powerful. The Genesis is as powerful as the first Macintosh to hit the marketplace.

The second difference is that there's a lot more diversity in the kinds of titles that are being published today than there was ten years ago. In the Atari days, the 2600 days, all the games looked exactly the same because you could only do so much with 2K of memory and a really bad processor. They did amazing things, but after a while they all began to look the same, and people lost interest. It was a fad. It wasn't a good vehicle of expressing an artistic or creative work. Whereas today's machines are getting much more close to that final thing that will eventually look like an interactive TV box.

Finally, there's a lot more money involved. There's a lot more technology being put together. In the Atari days, the Atari was just sitting by itself on top of a television. There were no other technologies on the horizon that were going to play a role with that box. The Commodore 64 and the Apple II were kind of computers who couldn't make up their mind whether they should be a game machine or not; it just so happened that a lot of people played games on them, but they were trying to sell themselves as computers. Because of that, there was a real hobbyist following, but not a real big consumer following.

Now it's very much a consumer business. It's very much toys, it is very much kinds of entertainment. Public relations activities that you'll find for movies, you'll find them now in games. Sonic Tuesday was huge, not just here in the United States, but in Europe as well. It had coverage better than most major movies rolling out the door, because now there is a whole group of kids who are now getting older, who are still carrying these machines with them.

There's another generation of hardware about to come out, and that next generation of hardware is really going to change the way we think about computer entertainment.

Does that include 3DO, for instance?

Yes.

In real-people terms, what does 3DO provide that hasn't been there before?

Well, I think 3DO is the first machine that crosses what we call the minimum threshold of having real high-quality graphics and animation capability—if you blur your eyes just a tad bit, like if I take off my glasses, it actually looks close to video, in the

> **"Prior to 3DO, unless you had a really high-end 486, it was impossible to create high-quality synthetic stories, because the machines just were not powerful enough. You couldn't push enough pixels to the screen, you didn't have the horsepower to generate the logic. The Nintendo and Sega boxes are like bad cartoons at best."**

"The Ultimate Multimedia Experience"

NEW MEdia COMPUTER

MULTIMEDIA SPECIALIST

- Several Multimedia machines on Display!
- We want to educate you in the World of Multimedia
- Our SPECIALITY is Customer Satisfaction!
- We have access to over 10,000 products
- Over 350 CD ROM Titles from which to choose!

TRY BEFORE YOU BUY!!!

- Over 20 choices of CD ROM Drives
- Knowledgeable Sales Staff
- Friendly Service

CD-ROM DRIVES

Mitsumi Internal w/Interface & Software	$179
Toshiba #3101 SCSI	$179
Toshiba #3401B SCSI	$429

SOUND CARDS

Sound Blaster Compatible	$39
Sound Blaster Deluxe	$78
Labtec Speakers	$16

HARD DRIVES

Conner 340MB IDE	$299
Maxtor 245MB IDE	$229
Western Digital 212MB IDE	$199

MULTIMEDIA KITS

Sound Galaxy Upgrade Kit

- Stereo Sound Card
- Internal CD ROM Drive
- Microphone
- Stereo Speakers
- 3 Popular CD-Rom Titles

$299.95

Fusion Double CD-16 Kit

- 16 Bit Stereo Sound Card
- Double Speed CD-ROM Drive
- SCSI Interface
- Kodak Photo CD Compatible
- Includes:
  Comptons Ency.
  7th Guest
  Battle Chess
  Arthur Teacher Trouble

$638.95

TAPE BACKUPS

CMS 120MB w/Interface/software	$99.95
Colorado 250MB Jumbo	$198

FAX/MODEMS

US-ROBOTICS 14,400 Internal	$159
US-ROBOTICS 14,400 External	$179

FLOPPY DRIVES

TEAC 1.44 3.5"	$42
Toshiba 2.08 3.5"	$59
Epson 1.2 5.25"	$49
TEAC Dual Media	$129

COMPUTER CASES

Mini Tower w/Door	$49
Desktop	$49
Mid Tower w/Door	$79
Full Tower w/Door	$99

MOTHERBOARDS

386SX-25	$79
386DX-40 128K	$149
486SX-25 w/Cache	$179
IBM 486-50SLC w/Math co.	$299

ACCESSORIES

Microsoft Mouse NEW ver. 9.0	$69
Microsoft Compatible Mouse	$6.99
IDE Controller w/2 Serial, 1 Parallel	$13
Game Card for Joystick	$10

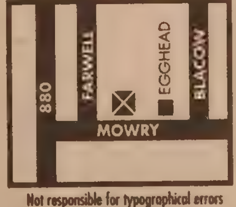
ALL CD-ROM TITLES IN STOCK! 350 TITLES TO CHOOSE FROM!

CD-ROM	PRICE
Action! Instant MM Presentations	$34.99
About Cows	$34.99
Adobe Type on Call (MAC)	$71.99
Aircraft Encyclopedia	$39.99
Amanda Stories	$44.99
AmericAlive ! (MAC)	$84.99
American1991 Business Phonebook	$19.99
Anecdotes	$24.99
Annabel's Dreams	$69.99
Animals! v.1.0 San Diego Zoo	$24.99
Animation Festival	$29.99
Arthur Teacher Troubles	$29.99
Arthur Teacher Troubles (MAC)	$49.99
Audobon Birds	$31.99
Audobon's Mammals	$34.99
B-17 Flying Fortress/Silent Service II	$44.99
Barney Bear Goes to School	$29.99
Barney Bear Goes to Space	$29.99
BattleChess	$24.99
BattleChess (Enhanced)	$34.99
Beauty & the Beast	$39.99
Beethoven (MAC)	$45.99
Beethoven String Quartet (MAC)	$44.99
Beyond the Wall of Stars	$54.99
Bible Library	$39.99
Bibles & Religion	$14.99
Bicycle CD ROM Collection	$39.99
Blue Force	$49.99
Brain Drain	$19.99
Britannica Family Choice	$29.99
Business & Economics Atlas	$34.99
Business Master	$24.99
Buzz Aldrin's Space	$59.99
California Collection	$19.99
California Traveling	$44.99
Career Opportunities	$34.99
Carmen San Diego Deluxe	$44.99
CD 7 System 7 Super CD (MAC)	$79.99
CD - Deluxe Pak (Chess,US/WLD/Mavis)	$49.99
CD Game Collection	$29.99
CD- Game Pack 2	$34.99
CD Winbox MPC/DOS	$19.99
CIA World Fact Book	$34.99
CICA Windows	$19.99
ChessManiac 5 Billion	$44.99
ChessMaster 3000 MPC	$24.99
Cinemania	$58.99
ClipArt Goliath	$22.99
ClipArt Heaven	$39.99
Coates Art Review: Impressionism	$39.99
Colossal Cookbook JC	$24.99
Complete Bookshop	$24.99
Complete Works (S. Holmes/ Shakespeare)	$39.99
Composer Quest	$49.99
Conan the Cimmerian	$44.99
Consumer Information	$39.99
Cosmic Osmo (MAC)	$44.99
Curse of Enchantia	$34.99
Danger Hot Stuff	$34.99
Danger, Hot Stuff II	$34.99
Deathstar Arcade Battle	$19.99
Desert Storm	$34.99
Desert Storm (MAC)	$34.99
Desktop Publishing v.2.0 (MAC)	$39.99
Dictionaries & Languages	$19.99
Dictionary of the Living World	$49.99
Dinosaur Adventure	$54.99
Dinosaurs! MM Encyclopedia	$64.99
Dinosaurs! MM Encyclopedia (MAC)	$64.99
Don Quixote	$39.99
Dr. Music	$24.99
Dr. Windows	$24.99
DTP Pro ClipArt FM-Wave (DOS/MAC)	$39.99
Dune	$64.99
EcoQuest 1: Search for Cetus	$54.99
Education Master	$29.99
Electricity & Magnetism	$39.99
Electronic Library of Art IV	$49.99
Encyclopedia of Sound	$14.99
European Monarchs	$39.99
Euro Racers	$49.99
Eye of the Beholder II	$54.99
F117A/F15 II w/scenario	$49.99
Family Doctor (DOS/MAC)	$44.99
Family Education Collection	$34.99
Fly & Drive Spectacular	$44.99
Fonts for the Professional	$39.99
Font Master 1	$29.99
Font Master 2	$34.99
Food Analyst	$39.99
Fresh Arte	$39.99
From Alice to Ocean	$37.99
Futura	$19.99
Game Master	$34.99
Gameware	$29.99
Garbo's MS DOS Files	$19.99
GeoVision	$29.99
Gifs Galore	$19.99
Giffy Gold	$39.99
Global Explorer	$94.99
Goferwinkle's Adventures	$39.99
Great Cities Vol. 1	$48.99
Great Cities Vol. 2	$49.99
Great Wonders of the World Vol. 1	$49.99
Groiler New MultiMedia Encyclopedia	$88.99
Guiness MPC '92 Disc of Records	$42.99
HAM Radio	$19.99
Ham Call	$49.99
HellCab (MAC)	$69.99
History of the World	$54.99
Home Remedies	$34.99
Hot News	$34.99
House of Games	$29.99
Inca	$49.99
Indiana Jones: Fate of Atlantis	$49.99
Inspector Gadget	$44.99
Int'l Business Atlas	$29.99
Int'l Graphics Library (MAC)	$39.99
Interactive Storytime 1	$39.99
Interactive Storytime 2	$39.99
It's a Birds Life: Shelly Duvall	$54.99
Jets & Props	$34.99
Jones in the Fast Lane	$34.99
Journeyman Project (MAC)	$69.99
Jungle Books, The : Mowgli's Brother	$39.99
Just Grandma and Me (MAC)	$49.99
Just Grandma and Me	$49.99
Jutland	$54.99
Kaa's Hunting	$34.99
KGB World Fact Book	$34.99
Kings Quest V	$34.99
Kings Quest VI	$54.99
Klotski	$24.99
Kodak Photo Access CD	$29.99
Language Discovery	$39.99
Laura Bow - Dagger of Aman Ra	$49.99
Lets Play	$19.99
Learn to Speak Spanish	$69.99
Libraryof the Future- 1st Edition	$49.99
Links Collectors CD	$44.99
Lion Shareware	$39.99
Loom CD	$24.99
Lord of the Rings	$54.99
Lost Treasures of Infocom	$44.99
Macademic	$79.99
Macromind Action!	$89.99
MacWorld Interactive (MAC)	$29.99
Magazine Rack	$34.99
Majestic Places (MPC/MAC)	$32.99
Manhole	$29.99
Maniac Mansion II-Day of the Tenticle	$49.99
Mantis Fighter	$54.99
Marketing Master 1992	$29.99
Mars Explorer	$44.99
Mammals - National Geographic	$39.99
Mayo Clinic Family Healthbook	$49.99
Mayo Clinic Family Health (MAC)	$64.99
Mavis Beacon Teaches Typing	$24.99
McMillian Dictionary for Children	$44.99
Media Clips- 4 Pack (MPC/MAC)	$54.99
Medly of Games	$34.99
Mega Movie	$49.99
MIDI Music Shop	$34.99
Middle East Diary	$34.99
Mirror, Mirror	$19.99
Mixed Up Mother Goose	$24.99
Monkey Island Multimedia	$44.99
Mother Earth II ClipArt	$39.99
Mother of All ClipArt	$21.99
MPC Wizard	$12.99
MS MultiMedia Beethoven	$59.99
MS Bookshelf 1992	$39.99
MS Dinosaurs	$54.99
MS Encarta	$259.99
MS Works	$69.99
MS Publisher	$109.99
MultiMedia Music: Mozart	$29.99
Musical Instruments	$59.99
National Parks	$34.99
Nautilus	$24.99
Night Owl v. 6	$24.99
Night Owl v. 7	$24.99
Night Owl v. 8	$47.99
Night Owl v. 9	$49.99
North American Fax	$34.99
North American Indians	$34.99
Ocean Digital Imagery Vol. 1 (MAC)	$28.99
Oldies but Goodies	$19.99
Original Shareware	$14.99
OS/2 Archives	$21.99
Our Solar System	$22.99
Pacific Islands- Team Yankee	$44.99
PC Globe	$49.99
PC Karaoke	$74.99
PC Medic	$29.99
PC SIG 11th Edition	$34.99
PC SIG 12th Edition	$37.99
Peter and the Wolf	$24.99
People at Leisure (Images) (MAC)	$28.99
PhoneDisc Business	$74.99
PhoneDisc Residential	$74.99
PhoneDisc Reverse	$219.99
Phoenix v.3	$19.99
Pixel Garden	$34.99
Plant Doctor	$29.99
Playing Language Games English	$29.99
Playing Language Games French	$29.99
Playing Language Games German	$29.99
Playing Language Games Japanese	$49.99
Playing Language Games Spanish	$29.99
Prescription Drugs	$34.99
Publique Art	$34.99
Publish it! 2.0	$34.99
Publisher's Paradise	$34.99
Putt Putt (MAC)	$49.99
Putt Putt	$49.99
Putt Putt Fun Pack	$29.99
Q & A Database/Word Processor	$69.99
RBBS in a Box	$34.99
Reference Library Software Toolworks	$38.99
Renaissance Master 1	$49.99
Roger Ebert's Movie Home Comp.	$34.99
ROMaterial	$24.99
Seals of the US Govt	$34.99
Secret Weapons of the Luftwaffe	$38.99
Selectware	$14.99
Seven Days in August	$64.99
Shareware Extravaganza	$54.99
Shareware Gold 2	$34.99
Shareware Heaven	$34.99
Shareware Magic	$39.99
Shareware Online	$34.99
Shareware Overload	$14.99
Shareware Tiger	$34.99
Sherlock Holmes Vol. 1 (MAC)	$39.99
Sherlock Holmes Vol. 2 (MAC)	$49.99
Sherlock Holmes Vol. 3 (MAC)	$52.99
Sherlock Holmes Vol. 1	$38.99
Sherlock Holmes Vol. 2	$49.99
Sherlock Holmes Vol. 3	$52.99
Silly Noisy House	$59.99
SIMTEL	$24.99
Sleeping Beauty	$39.99
Software Toolworks MM Encyclopedia	$49.99
So Much Screenware	$34.99
So Much Shareware I	$19.99
So Much Shareware II	$29.99
Sound Library	$14.99
Source Code CD	$24.99
Source CD	$45.99
Space Adventure	$59.99
Space Quest IV	$38.99
Super CD	$29.99
Space Series Apollo	$39.99
Sports Best (3 Popular Games)	$24.99
Spaceship Warlock (MAC)	$64.99
Sports ROM ClipArt (MAC)	$35.99
Spirit of Excaliber	$44.99
Stellar 7	$34.99
Street Atlas USA	$119.99
Survey of Western Art	$49.99
Talking Jungle Safari	$62.99
Talking Jungle Safari (MAC)	$59.99
Technotools	$14.99
Tempra Access	$24.99
Tempra Show	$109.99
Terrorist Group Files	$34.99
Time Almanac 1991	$34.99
Time Table of History	$24.99
Too Many Fonts	$14.99
Top 2000 Shareware	$29.99
Total Baseball	$24.99
Twelve Roads to Gettysburg	$52.99
Ultima I-VI	$59.99
Ultima Underworld/W. Cmdr II	$62.99
Ultima Underworld 1 & 2	$69.99
U.S. Atlas/ World Atlas	$24.99
U.S. Atlas w/AutoMAP	$34.99
U.S. Atlas MPC	$29.99
USA State Fact Book	$34.99
US Civics	$34.99
U.S. History on CD	$39.99
US Presidents	$3499
USA Wars: Civil War	$39.99
USA Wars: Korea	$39.99
USA Wars: Vietnam	$39.99
USA Wars: WWII	$39.99
VGA Spectrum 1	$19.99
VGA Spectrum 2	$39.99
Vampire's Coffin (MAC)	$54.99
Video for Windows	$139.99
Visions of Saturn	$24.99
Vital Signs	$89.99
White Horse	$39.99
Who Killed Sam Rupert (MAC/MPC)	$34.99
Wild Places (MPC/MAC)	$19.99
Wild Places/Jets/World View	$54.99
Willy Beamish, The Adventures	$54.99
Windoware v.1.1	$14.99
Windows 3.1 (SoundBlaster)	$29.95
Windows Master	$32.99
Wing Commander 2 Deluxe	$59.99
Wing Commander/ S. Missions 1 & 2	$34.99
Wing Commander & Ultima VI	$29.99
WizPac	$19.99
Winware Vol. 3	$29.99
World Atlas v. 3.2	$28.99
World Atlas (MAC)	$31.99
World of Flight	$44.99
World View (MPC/MAC)	$19.99
World Traveler	$14.99
Wrath of the Demon	$39.99
7th Guest	$54.99
ADULT TITLES	
101 Sex Positions I	$49.99
101 Sex Positions II	$49.99
All Beauties	$29.99
Adult Reference Library	$44.99
Animation Fantasies 1	$59.99
Animation Fantasies 2	$49.99
Asian Ladies	$39.99
Bare Assets (MAC)	$64.99
Best of Vivid	$69.99
Busty Babes	$49.99
Busty Babes 3	$49.99
Ecstasy - Hot Pics	$59.99
Exotic Girls	$44.99
FAO (3 Djsk Set)	$89.99
Hawaii	$34.99
Hidden Obsessions	$69.99
Hot Pics III	$54.99
Hot Pics IV	$54.99
Girls of Vivid I	$49.99
Girls of Vivid II	$49.99
Island Girls	$34.99
Legend of Kama Sutra	$49.99
Local Girls	$32.99
Lovely Ladies 2	$52.99
Moving Fantasies	$39.99
My Private Collection	$52.99
Night Watch	$69.99
Night Watch (MAC)	$69.99
PC PIX I	$54.99
PC PIX II	$54.99
Physical Therapy	$46.99
Porkware	$69.99
Seymore Butts	$54.99
Seymore Butts (MAC)	$54.99
Seventh Heaven	$54.99
Smutware	$25.99
Storm 1	$46.99
Storm 2	$46.99
Storm 3	$46.99
Things Change: My First Time	$68.99
Tropical Girls	$46.99
Visual Fantasies	$39.99
Volcano	$49.99

NEW MEdia COMPUTER

5201 Mowry Ave.
Fremont, CA 94538
(510) 494-0188
FAX (510) 494-1488

STORE HOURS:
Mon–Fri 9–8
Sat 9–7 • Sun 10–6



Not responsible for typographical errors
Prices may change without notice
Quantities may be limited

•CORPORATE CUSTOMERS WELCOMED • USUALLY 24 HOUR TURN-AROUND SERVICE

"All those hardware suppliers are going to need good software to promote their boxes. There's going to be a real boom for software developers and publishers to provide cutting-edge software—stories, simulations, puzzles, games—that can be used by all these hardware manufacturers."

types of images and what you can manipulate with those images, because it's all in 3-D. You can create synthetic stories.

Prior to 3DO, unless you had a really high-end 486, it was impossible to create high-quality synthetic stories, because the machines just were not powerful enough. You couldn't push enough pixels to the screen, you didn't have the horsepower to generate the logic. The Nintendo and Sega boxes are like bad cartoons at best. At their best, they're at the lowest quality of bad cartoons.

3DO changes that by allowing us to use video images, and 3-D objects with texture maps, so that we can create worlds that you can walk around in and be fully interactive with. Not something that you prerecord on a CD—like CD-I, where you can send a guy out with a film team to record all this stuff, and you play it on a CD, and just because you go left down a corridor versus going right down a corridor, that's "interactivity." That's all canned. If somebody had to film it ahead of time, it's not very interactive.

But if you can make it yourself as you go along, it's a lot better.

Exactly right.

But 3DO won't be the only machine that's going to be out there. There are other companies. Everybody's waiting for what the 32-bit Sega machine is going to be, the 32-bit Nintendo machine; Sony's rumored to be working on a machine. Jim Clark's new hot box...

They all have the same basic characteristics—3-D capability, 3-D texture mapping, highly powerful RISC processor, good sound capability, mass storage, and something to hook up to the outside world with, either through the telephone or through a cable wire.

That will become the focus of attention: how all this kind of electronic media interactivity that starts coming together will be through one of those boxes. Whose name's going to be on the box is anybody's guess, but it will be very, very exciting.

And I think the software companies stand to gain a lot, because at the end of the day all those hardware suppliers are going to need good software to promote their boxes. There's going to be a real boom for software developers and publishers to provide cutting-edge software—stories, simulations, puzzles, games—that can be used by all these hardware manufacturers.

What can software developers do in this new world that they couldn't do before? What becomes possible for users that they couldn't do before?

I'll give you a good example. Say if we were to do a Batman game. We don't have rights to that, but hypothetically. The traditional way you do Batman as a movie or a comic book is you start from point A, and you go linearly all the way through to the end. Every scene is shot, every scene is played through, and the player just watches it passively.

Computer games aren't much different from that. The Sierra On-line games, the Lucasfilm games, Microprose's Graphics Adventure games, are identical, with the exception that they have branching points, where instead of going left you can go right; instead of killing somebody you can choose not to kill somebody.

A writer actually writes out all the possible places that you can journey to, and what sequence you're going to go in. The only thing you do is kind of navigate down that freeway, taking off-ramps into other on-ramps, and branching. But eventually you only have so many possibilities, and most of the time you spend playing these games is finding out what the writer is trying to reveal to you, what the game is trying to reveal to you; or trying to guess locations, or trying to guess the parser. It's guess my location, guess my parser, guess what I should be doing based on what the writer wants me to do.

This new medium allows us to create something totally different. It allows us to create synthetic stories. Instead of doing that with Batman—where we'd have a script where Batman encounters some evil person, like the Riddler, and the Riddler sets up all these traps and Batman is the player, and as you drive down the street you fall into one of the traps, and the only way to get out of the trap is to hit button A or hit button B—we now engineer Gotham City in 3-D. We can actually create the whole city so you can walk around in that city.

We have enough computer horsepower to program the personality profile of each one of the characters you may meet. You have synthetic personalities—the Riddler, the Penguin, the mayor, and all those folks. The writer now, instead of writing a script, writes goals for each one of those individual characters. The Penguin's goal, maybe, is to kill Batman. The Riddler's goal may be to rob the bank. Everybody has their own motives in this world, and the player is injected into this world, much like SimCity. You experience, based on your actions and the characters' interactions with each other, the story as it creates itself on the fly.

On top of that, what's amazing is if you think that you can have algorithms driving all the other characters, you can have algorithms also driving your character. So in effect, you can have selective interactivity. A player can literally put Batman into the game, have the computer play Batman, and watch it like a television show. Or, at any point, interact with that character—"No, don't go there, I want you to go deal with the Riddler, and then let the algorithm take over again." Or, the 8-year-old son or daughter grabs the joystick and starts playing Batman totally.

And people on the network can also be interjected in the same world, so across your telephone lines somebody else can replace the synthetic personality.

This person can be the Riddler and this person can be the Penguin...

Exactly. So now you're creating environments. You're creating the cyber-environment where people can actually come and play. We're no longer writing stories per se, we're actually engineering worlds. We're actually architecting places and rules that people can play in. They can play with computer characters, they can play it with other characters, or they can watch it like television. You could never, ever do that before. There just wasn't enough horsepower in the box.

Even with 3DO, it's going to be difficult, because as powerful as 3DO is, it just barely crosses that minimum threshold of power.

It's the 128K Mac of that world.

"The reality is, today's business is cartridge business. We see an order of magnitude difference between a successful cartridge gam and a floppy disk game."

File

Monitor & Terminal Repair Specialist

• IBM • Macs • SVGA • VGA • CGA • EGA • Monochromes • Multi-Syncs

advantiX inc

REDWOOD CITY 1757 East Bayshore Rd. Suite 22

Factory Authorized Repair Center

Samsung • Zenith • Radius

- **FREE TUBE REJUVENATION**
- **FREE ESTIMATE** • **FREE DEGAUSSING**
- **VOLUME DISCOUNT AVAILABLE** • **LOANERS AVAILABLE**

One Year Warranty On Any Repaired Unit(s)

Tel 415 • 363 • 1225 Fax 415 • 363 • 0685

1 800 • 553• 5703

Edit

Printers, Desktops, Laptops & PC's Repair Specialist

We Delivery And Install

One Year Warranty On Any Repaired Unit(s)

ComputerCare

MOUNTAIN VIEW 2455 Old Middlefield Way, Suite M

Authorized Repair Center OKIDATA EPSON

HEWLETT PACKARD COMPAQ TOSHIBA IBM Business Partner

• Tel 415/967-8186 • Fax 415/967-6945

• 1 800 67/CARE/4
2 2 7 3

Computer Rescue
Staffed with highly skilled, qualified technicians, ComputerCare will diagnose and treat your machine's problem accurately and promptly.

Warranty Service
ComputerCare provides warranty and post warranty service.

Service Contracts
We loan you equipment while we repair yours. Please call us for a plan customized to best suit the needs of your company

Other Services Available
- In Shop Service
- On Site Service
- Overnight service

Exactly right.

It's an exciting time for all of us. Just like that 128K Mac that changed the way we perceived user interfaces and personal computing, I think 3DO will change the way we look at entertainment boxes on top of the TV.

Further out, you've been talking about Star Trek: Next Generation VR parlors.

Yes.

Where does that stand? Obviously it's a little further out on the horizon than 3DO is.

The nice thing about working on a Star Trek VR project is the fact that we don't have to worry about creating software for a $500 box. [*laughs*] Because we can have a lot more dollars that we can invest in capitalizing one of these facilities, we can use much more powerful computers. So we're using [Silicon Graphics] Reality Engines, Onyx engines, to generate all the graphics for Star Trek centers.

The basic idea is, we want a person, when they walk into one of these Star Trek centers, to believe that they're in the Star Trek world. From the moment of entry, we want the person to believe that they're there.

We want them to experience the fantasy. And the Reality Engines give us unbelievable power to create worlds that look totally real.

So the deal is, we're going to mix a variety of technologies together in this entertainment facility—simulation technology, where you climb into a cabin, except this cabin would be a shuttlecraft. We will use helmet-mounted VR display systems for the transporter room or the holodeck. We'll build real facilities like the bridge of the Enterprise where players can go, and as you walk on board the bridge, hit the buttons and make it work.

And having all these players play together with each other on scenarios that are entertaining—it's a human experience, it's not a computer experience. You just happen to be playing through the Silicon Graphics machines, but it's really about people playing with other people and getting to know each other. Eventually if we're successful, we're hoping that there'll be multiple sites that will be able to connect across networks so people can have remote locations.

It's just in its early stage of development. A lot of this stuff is top secret, because we think you want to demonstrate VR not by talking about it but just by doing it.

I think virtual reality, even though it's in its infancy today, will have very amazing kinds of applications, both in entertainment and professional use, and in communications down the road. I think a lot of the pioneering work is being done in entertainment.

The VR parlors are starting to sprout in shopping malls, and so far they seem to be pretty restricted to just shooting the other guy.

Well, you have a bunch of male engineers building games. So we build the games that appeal to male engineers! [*laughs*] Who've been working too many hours in front of their computers....

I think as you get people involved in these kinds of experiences—you'll see the difference between a mechanical experience, or a computer experience, where you're up against an airplane and you're shooting an airplane down, or you're trying to blow up a Klingon ship, and the experience of realizing that now you're working with other people. Or against other people. Both cooperatively and competitively.

And that human experience can create all sorts of wonderful products. You can create adventures, you can go back in historical times—it does not have to be grab a gun, point it at a person, and squeeze the trigger. It could be Alice in Wonderland. There's lots of ideas floating around out there about great virtual reality applications.

On the other hand, there's some basic games that need to come out in the beginning to kind of get the market interested in it. The first game in the video business was Pong.

Actually the first game before Pong was Computer Space, but Computer Space was too complex and nobody could figure out how to use it. Now today, it seems very simple—I have a Computer Space machine up in my house—but when Nolan [Bushnell, founder of Atari] put that machine together, it was too complicated. It was like two flying saucers and a little rocket ship, and you had gravity and thrust. You could rotate the ship around using thrust and momentum to shoot a radio-controlled bullet, which was a little white dot, at these little flying saucers going back and forth on the screen. Nobody could figure it out. It was beyond their frame of reference.

So he created a simpler game—Pong. Okay, now everybody could understand that.

So then Breakout came out, and...

And then it got more and more sophisticated. VR will be the same way. The first games need to be very Pong-like. They need to be things that people can easily understand, and then very quickly get into much more sophisticated kinds of applications.

At the end of the day we're hoping that all the VR technology that we're putting to work now will find its way into the home, because every three or four years it's an order of magnitude change in computer power and price. All the stuff we're working on today will find its way into the home.

If Jim gets it the way he wants it to be, it *will* be in everybody's home in Silicon Graphics boxes.

So it's an exciting time. We get to play with tomorrow's technologies today, and get ahead of that learning curve.

The whole Nintendo-Sega stuff is somewhat outside the parameters of what we usually talk about, and I was a little surprised to hear you say the other day that that's now a majority of your business.

Yes, it is. This year is our first real big year into the cartridge business.

The floppy disk market, the computer/PC market, is still growing very well. It's growing at a 10–15% pace in entertainment software. The problem is that it's a $400 million marketplace, wholesale dollars, versus retail dollars, $5 billion, in the cartridge market. Because of that, the emphasis today in the growth of an entertainment company will be in these cartridge technologies.

The problem with the cartridge technologies is it's only going to be around for a short period of time, just like the Atari machines. They're too expensive, the cost of goods is too high, they don't have a whole lot of capacity. They have one brilliant feature, and that's the ability to plug and play. Put the cartridge in, push the button, and you're up and playing. You don't have to screw around with DOS, you don't have to figure out how to load and unload it, whether you've got enough RAM, if you have the right memory configuration, did you boot under the right operating system—you don't have to worry about any of that.

But the next generation of technology, the mass storage technologies—some people believe it's CD-ROM, others believe it's magneto-optical, other people believe it's new forms of silicon. Whatever that storage medium is, when you increase the amount of storage capacity as well as increase the horsepower of these home-based machines, these games begin now to start looking like personal computer games. Many people believe that personal computer companies have an edge over cartridge-only companies in the next generation of hardware, because we are more experienced at telling long stories, building big simulations—

Getting beyond Super Mario Brothers.

Well beyond Super Mario Brothers. And so the cartridge companies now, Nintendo and Sega, are courting traditional floppy-disk computer software houses, to support new platforms.

We see it all merging together, but the business in and of itself will look much more like the cartridge business than it will look like the floppy disk business. The majority of titles won't be sold at Eggheads, they will be sold at places like Toys R Us and K Mart, WalMart. On the other hand, what you buy will end up being much more sophisticated, much more PC-like than cartridge-like.

Cartridge games will do well for that particular young audience. The reason why adults don't play too many cartridge games is because fundamentally these games are boring. They're great for kids, because kids like to do things over and over again. A three-year-old child drops a fork off the table; you put it back on the table and he knocks it off again. He does this about a dozen times, with great entertaining value to him. Adults don't like doing that—once they do it once they don't want to do it again.

So we think that the software companies that have been focusing on computers will make a better transition to the next new media. But the reality is, today's business is cartridge business. The difference in volume is about four to one per title. With exceptions—a Falcon 3.0 will sell as much as a cartridge title would out in the open market. But even a hit title in the floppy disk market is a quarter million copies. [Cartridge game] Street Fighter II sold nine million copies worldwide. We see an order of magnitude difference between a successful cartridge game and a floppy disk game. But we'll continue to support the floppy disk market. We'll still have about 50% of our internal development focusing on floppy disk titles, and the rest should be in cartridges or CD-ROM titles for the next generation.

Do you feel constrained by the amount of money people are willing to spend for a game

Over 20 shipping points NATIONWIDE!

FastLink Network Products

Network Products for Less!

Coax Ethernet

3COM 3C503/16 ETHERLINK II 16-bit/5-Pack	174/779
3C523B ETHERLINK/MCA/5-Pack	302/1,334
3C507 16-BIT ETHERLINK/5-Pack	317/1,405
3C509 ETHERLINK III/5-Pack	145/650
INTEL ETHEREXPRESS 16/5-Pk/20-Pk	115/515/1,967
INTEL ETHEREXPRESS 16 MCA	184
NOVELL/EAGLE NE2000 PLUS	145
NOVELL/EAGLE NE2/2C 16-bit MCA	263
SMC ELITE ULTRA Coax/6Pk/24Pk	112/672/2,371
ETHERCARD ELITE/A FOR PS/2	198
ELITE 32 Dual Segment EISA Coax	657.
3COM 3C579 32-bit Coax/5-Pack	247/1,042
INTEL ETHEREXPRESS 32-Bit EISA	465
NOVELL/EAGLE NE3200 32-Bit EISA	742
NOVELL/EAGLE NE2/32C 32-Bit MC	543

ARCNET CARDS AVAILABLE. PLEASE CALL.

10 Base-T Twisted Pair Ethernet

MILAN Transceiver (AUI-BNC)/(AUI-RJ45)	49/49
3COM 3C503/16TP ETHERLINK II/5-Pk	184/800
3C507 ETHERLINK 16-bit TP/5-Pack	340/1,561
3C509TP 16-bit/5-Pk/20-Pk	145/650/2,236
3C509 COMBO/5-Pack	155/700
3C523B 10 Base-T MC/5-Pack	352/1,583
INTEL TP/MCA/5-Pk/20-Pk	115/186/515/1,967
COMBO 16-Bit/5-Pack	131/622
COMBO (20-Pack)	2,399
FlashC 16-Bit/5-Pack/20-Pack	152/726/2,670
SMC ELITE ULTRA 16TP/6-Pk/24Pk	112/632/2,371
ELITE ULTRA COMBO/6-Pk/24-Pk	132/751/2,845
ELITE 10T/A 10 BaseT MCA	198
ELITE 32T Dual Segment EISA TP	657
3COM 3C579 EISA 10BaseT/5-Pack	247/1,042

Token Ring

3COM Tokenlink III 16/4	479
3COM Tokenlink III 16/4 10 Pack	4,498
INTEL Token Express 16/4	460
MADGE 16/4 Smart Ringnode/10-Pack	613/5,219
MADGE 16/4 EISA Ringnode/5Pk	853/3,758
PROTEON 16/4	438
PROTEON 16/4 EISA	494
SMC Token Ring Adapter 16/4	361
SMC Token Ring 16/4 12-Pack	4,103

See next section for Token Ring Pocket Adapters.

PCMCIA/Parallel Port Adapters

IBM Credit Card Ethernet Adapter	296
Credit Card 10BaseT Adapter	296
Credit Card Token Ring 16/4 Adapter	628
Credit Card 3270 Adapter	543
THOMAS CONRAD Ethernet	299
Credit Card 10 BaseT	299
Credit Card 16/4 Token Ring	619
XIRCOM Pocket Adapter III BNC or 10BaseT	305
Pocket ENET III COMBO(BNC & 10BaseT)	330
Pocket Token Ring TYPE1/TYPE3	580
3270 Adapter for parallel port	439
Credit Card Ethernet Adapter	290
Credit Card 10BaseT Adapter	290
Credit Card Combo BNC/10BT	330

Wireless Adapters

ALPS RadioLan Parallel Port Adapter	444
NCR Wireless 16-Bit Lan Adapter	733
Wireless PS/2 Lan Adapter	641
Wireless PCMCIA Adapter (New Product)	CALL
Security Boot Rom	90
Proxim RangeLAN/ISA 16-bit	418
RangeLAN PCMCIA Adapter	514
RangeLAN Parallel Port Adapter	514

MacIntosh Products

ASANTE MC+IIE64 Coax/MAC II	158
MC+30iE64 Coax/IIsi & SE/30	158
Mini EN/SCPB Thick/Thin/10BT for Powerbook	340
Mini EN/SC10TPB 10BaseT for Powerbook	296
FriendlyNet FTNIISI IIS,SE/30 Coax or 10BT	248
FriendlyNet FTNII for NuBus Coax or 10BT	213
Asante Lite Nubus-TN	132
Asante Lite Nubus-10T	132
Asante Lite LC-TN	132
Asante Lite LC-10T	132
CAYMAN Gatorbox Enet router, APL,AUI/BNC	2,025
DAYNA DaynaPort E/II for II,IIX Coax or 10BT	158
DaynaPort SCSI/Link Coax or 10BT	288
DaynaPort SCSI/Link-3 Combo	352
DP SCSI/Link PB for Powerbooks Coax or 10BT	311
DP SCSI/Link PB3 Combo Coax/10BT/AUI	361
EtherPrint T-Plus Print Server	433
PathFinder Router (LocalTalk to EtherTalk)	651

We carry the full line of adapters from Asante, Dayna, & Farallon.

Concentrators & MAUs

3COM Linkbuilder TP/12	426
ASANTE 8-Port Concentrator/12-Ports	265/526
ALLIED TELESIS 8 Port/12 Port	316/560
EAGLE 4-port Hublet Mini-Repeater	228
EXOS/MICRODYNE 16 ports	621
INTEL Int. TPE 12 port Hub ISA/EISA	565/641
INTEL Hub Expansion Board (12 add'l ports)	490
SYNOPTICS 2800A 16 port w/ AUI	734
SMC 3608TP 8-Port Concentrator/12-Ports	356/646
SMC Elite 4000C Token Ring Mau 8-port	723
SMC Elite 4000C Token Ring Mau 16-port	1,153
MADGE 8 Station Token Ring Hub	490
3COM Linkbuilder TR 3C510180	1,914
Linkbuilder TR 3C510182	3,107
Linkbuilder TR 3C510181	3,682

SNMP Manageable Concentrators

ASANTE 1012 12 ports Hub	925
ASANTE 1701 12 Ports w/SNMP module	1,065
ASANTE View for Windows (In-Band/Out-of-Band)	710
ALLIED TELESIS 12 ports w/SNMP module	1,186
3COM Linkbuilder FMS TP Hub	685
FMS Isoview Software	459
FMS Management Module	640
FMS Isoview Management Option	249
DAVID SYSTEMS ExpressNet 12-port w/SNMP	1,248
NETWORTH 3/6/10 Slot Chassis	642/836/1,933
12 Port 10BaseT Module/Smart Module	1,234/1,791
24 Port 10BaseT Module/Smart Module	1,546/2,191
Tri-Segment Module 24 ports	1,546
Tri-Segment Module w/ Mgmt 24 ports	2,191
Tri-Segment Stackable 24 ports	1,288
Tri-Segment Stackable 24 ports w/ SNMP	1,932
Tri-Segment Management module (STMDB)	836
Token Ring Module	1,159
NetWare App. Engine w/o NetWare Runtime	3,026
NetWare App. Engine w/ NetWare Runtime	3,783
Hubview SNMP mgmt. software (Windows)	1,546
SYNOPTICS 2803 16 ports w/AUI	955
2804 16 ports w/Fiber Optics	1,177
2814-04 16 ports	2,298
2814-05 16 ports	1,818
3000N 12 Slot Chassis	1,814
3308A 12 Port module	1,182
3314A-03 Mgmt. module w/ basic SNMP	2,064
3314A-04 Mgmt. module w/ advance SNMP	3,266

Repeaters

IMC LANextender BNC/BNC-limited to 1 per lan	325
Dual Port Ethernet Repeater BNC/BNC	461
Dual Port Repeater AUI/Fiber Optics	540
Dual Port Repeater TP/Fiber Optics	540
Quad Port Repeater (4 BNC)	626
TUTANKHAMON Long Distance Repeater. Link 1500' using one pair of TP cable, alternative to fiber, Requires 1 Pair	1,446
Dual Port Repeater BNC/BNC	399
Quad Port Repeater (4 BNC)	599
Octo Port Repeater (8 BNC)	1,099

Tape Backup Solutions

CHEYENNE ARCserve VAP 5-10/ANY	449/769
ARCserve NLM V5.0 5/10/25 users	256/512/770
ARCserve NLM V5.0 50/100 or 250 users	960/1,222
ARCserve Solo	127
COLORADO DJ-10 120MB Int. Tape Drive	161
DJ-20 250MB Int. Tape Drive	226
JTC-10 120MB TRAKKER Para. Port Tape Drive	380
JTC-20 250MB TRAKKER Para. Port Tape Drive	460
Power Tape 25-2 GB SCSI Tape Drive w/Ctrl	1,055
Power Tape Ext-25 2 GB SCSI Tape Drive w/Ctrl.	1,251
Power Tape 50-4 GB SCSI Tape Drive w/Ctrl	1,664
Power Tape Ext 50-4 GB SCSI Tape Drive w/Ctrl.	1,870
CONNER (formerly Maynard/Archive/Cypher/Irwin)	
Backup Exec for DOS/NetWare NLM	129/270
Conner 7251QI 500 MB	520
Conner 6000DLT 48MB/Min	3,882
EXABYTE 4MM 4-8GB Workstation Based	1,478
4MM 4-8GB Server Based (NetWare 2.2) from	1,801
4MM 4-8GB Server Based (NetWare 3.11) from	1,608
INTEL StorageExpress EL Ext. 2.2GB	5,961
INTEL StorageExpress XL Ext. 5GB	9,464

Uninterruptible Power Supplies

APC BACK-UPS 250	140
BACK-UPS 400/450/600	175/210/289
BACK-UPS 900/1250	410/547
POWERCHUTE PLUS for Novell (VAP/NLM)	99
POWERCHUTE PLUS for Unix	149
SMART-UPS 400/600/600Rack	338/434/488
SMART-UPS 900/1250/1250Rack	628/836/910
SMART-UPS 2000	1,299

Bridges & CSU/DSU

ALLIED TELESIS Local Ethernet Bridge	1,449
ALLIED TELESIS Local Ethernet Bridge w/ SNMP	1,739
NOVELL MultiProtocol Router 2.0	721
3COM NetBuilder Local Ethernet (Thick)	3,637
NetBuilder Token Ring	4,736
NetBuilder Remote (Thick/Thin)	5,263
INTELLICOM Enet Local, 2AUI,2BNC,SNMP	1,300
MADGE 16/4 Token Ring Bridge	2,051
PROTEON DNX 300i Token Ring to Token Ring	4,162
DNX 300i Token Ring to Ethernet	4,162
DNX 300i Token Ring to Dual Series	4,919
RETIX 4850 Remote Bridge	3,575
SYNOPTICS 3323S Enet Local Bridge w/AUI	2,874
SYNOPTICS 3522 Token Ring Bridge	5,677
UDS DDS/MR1 Dual RS232/v.35 w/interface	589

Network Modems/Comm. Servers

ARTISOFT Articom Modem Sharing	236
ARTISOFT Central Station	431
BRIGHTWORKS NetRemote+(100users)	359
MICROTEST Ethernet LANModem	1,439
MICROTEST Token Ring LANModem	2,050
NOVELL NetWare Access Services v1.3	1,735
NACS 2/8/16/32 ports	431/1,300/2,170/3,468
SHIVA NET MODEM/E 9600 BNC	1,567
Lanrover 4E/8E ports w/o modems	1,843/2,650
TELEBIT ModemMizer Software	227
Asyn.Comm.Server 8/16 ports	2,875/4,313
U.S. ROBOTICS Modem Sharing Kit V32BIS	532
Dual Modem Sharing Kit	937
Shared Access CommServ	1,495

Network Printing Solutions

CASTELLE Jetpress BNC/10Base-T	436
Jetpress MIO for HP4	419
Lanpress BNC (2 PAR/2SER)	662
DIGITAL PROD. NETSprint/150E 3 Parallel Ports	663
EAGLE NPE400 1 LPT, BNC & 10BT	362
INTEL Netport II for Ethernet *(New Lower Price)*	396
Netport II for 10BaseT *(New Lower Price)*	410
Netport II for Token Ring *(New Lower Price)*	572
NetportExpress XL for BNC/10BaseT	469
NetportExpress XL for Token Ring	CALL
XIRCOM Print Server 1 LPT, BNC or 10BT	300

Network Fax Solutions

CASTELLE FaxPress 1or 2 Line,BNC or TR	CALL
CHEYENNE FaxServe VAP/NLM	655
OPTUS FACSys NetWare Fax Server Software	720
INTEL Satisfaxtion Modem 200/400	329/447
Net Satisfaxtion for 8 fax boards (20 users)	649
Net Satisfaxtion (1000 users)	1,040
JETFAX II 9250 w/1 MB/4 MB	625/1,016
ZOOM FaxServer 8 Users (Win/Dos)	250
DIGIBOARD Digifax for 1 fax board (UNIX)	293
DIGIBOARD Digifax for 8 fax boards (UNIX)	491

Network CD-ROM

MICROTEST DiscPort (Network SCSI CDROMs)	550
MERIDIAN CD-Net for DOS (10 Users)	467
CD-Net for NetWare (NLM-10 Users)	467
CD-Net for NetWare (100 Users)	938
CD-Net for NetWare (250 Users)	1,445
MICRO DESIGN SCSI Express for NetWare, MDI	564
SCSI Express for NW 2.X	470
SCSI Express for NW3.11, Non-MDI(20 Users)	977•
SCSI Express for NW3.11, Non-MDI(250 Users)	1,429
Ext. CD-Rom LaserBank 600CD	665
Int. CD-Rom LaserBank 600CD	552
ISA SCSI Adapter for 600CD	348
EISA SCSI Adapter for 600CD	564
SCSI Express w/ 1 CDROM w/o CTRL	1,229
SCSI Express w/ 2 CDROM w/o CTRL	1,898
SCSI Express w/ 3 CDROM w/o CTRL	2,606
SCSI Express w/ 2x2 CDROM w/o CTRL	3,276

RAID Solutions

CHANTAL Paragon Software	640
COREL RAID (Software Only)	716
CORE INT. Micro Array Int. 510MB w/o CTRL	4,181
Micro Array 2XBOX w/ 1 510MB w/o CTRL	4,693
Micro Array 2XBOX w/ 2 510MB w/o CTRL	8,876
Micro Array Ext. 842MB	5,981
Micro Array Ext. 1684MB	11,453
ULTRASTOR 124F EISA(Controller Only)	1,777
MICROPOLIS Radion 680 3 340MB	5,299
Radion 1340 3 670MB	6,448
Radion 2060 3 1.03GB	8,267
Radion 2680 3 1.34GB	9,547
Radion 3500 3 1.75GB	10,494
Radion 4200 3 2.1GB	13,834
Radion ISA SCSI Adapter and Cable Kit	418
Radion EISA SCSI Adapter and Cable Kit	729

Cable Testers & Supplies

RG58 & RG62 Rachet BNC Crimper	75
RJ-45 Crimper	75
RG58 Ethernet BNC-Crimp (100 pak)	125
RG62 Arcnet BNC-Crimp (100 pak)	125
RJ45 10 BaseT Connectors (100 pak)	40
10Base-T Cable (1000' min) LV3/LV 5	100/200
BELDEN PVC RG58 or RG62 Cable (1000' min)	175
PLENUM RG58 or RG62 Cable (1000' min)	350
MICROTEST Quick Scanner	607
MT310 TP/COAX Scanner	1,142
MT350 NEXT Scanner	2,525

E-Mail

cc:MAIL DOS Platform V4.0	214
OS/2 Platform	359
WINDOWS Platform	359
MacIntosh Platform	359
Unix Platform (New Product)	648
10 USERS license/25 Users/100 Users	250/612/2,387
Gateway v3.21 (MHS)	960
MICROSOFT PC Mail v3.0 Server + 10 Users	479
PC Mail 5/20/100 Users	273/930/3,633
MHS Gateway/PROFS	708/3,405
SMTP/X400 Gateway	3,405/3,405
FAX Gateway	1,419

Novell Software

UnixWare Personal Edition	185
Lan WorkPlace for DOS Single/10 Users	290/1,445
Lan WorkGroup-5/10/20 Users	1,125/1,866/2,613
Lan WorkPlace for MacIntosh (Single User)	290
NetWare for Mac 5/20/100/200	347/626/1,397/2,096

Network Utilities

BRIGHTWORKS Utilities for NetWare	359
CHEYENNE Monitrix Network Mgmt.	583
Inoculan (20/250 workstations)	326/655
Utils for NetWare 286/386	257
CENTRAL POINT Anti-Virus NLM for NetWare 3.11	890
DIRECT ACCESS Network Menu	366
FRESH TECHNOLOGY LAN Assist	216
AntiVirus Assist v1.0	1,240
FRYE NetWare Management v1.1	339
Early Warning System v1.1	339
Lan Directory v1.1	339
INTEL LanDesk Manager	712
KNOZALL SYSTEMS NLM Auto	296
File Wizard NLM 1/3/8 Server	371/521/821
File Wizard VAP 1/3/8 Server	296/446/746
NOVELL LanAnalyzer for Windows v2.0	925
ONTRACK NetUtils 3.0	234
POWERCORE Network Scheduler 3 5 Users	275
Network Scheduler 3 DOS/WIN 25 Users	830
Network Scheduler 3 DOS ONLY 5/25 Users	176/485
XTREE XTNET File Manager/Serv. Ext.	341/100
XTREE Tools for networks	543

Peer-to-Peer Networking

ARTISOFT Lantastic 5.0 A/I	79
AE-2 Adapter 16-bit Ethernet Adapter	217
Noderunner Starter Kit 5.0 for DOS	477
Noderunner Starter Kit for Windows	550
Noderunner/C Coax 16-Bit Adapter	188
Noderunner/A Combo 16-Bit Adapter	238
Lantastic 5.0 for NetWare	296
Lantastic for Mac	578
Lantastic A/I for Win/6 /12 users	139/462/847
Lantastic 5.0 for TCP/IP	177
Etherbasket AE-2 Adapters (12 pack)	2,172
Etherbasket AE-3 Adapters (12 pack)	2,429
NOVELL NetWare Lite 1.1	79
NetWare Lite coax starter kit (2 Stations)	420
NetWare Lite Add-On (1 Additional Station)	210
XIRCOM Network Simplicity Starter Pack	427
Network Simplicity Add-On Kit	196
MICROSOFT Windows for Workgroup	
Add-On Starter Kit 2 User/1 User	291/146
Add-On for Windows 3.1 Software Only	69
Add-On for Windows 3.1 (5 pack)	276

Optical Storage/WORM

PINNACLE MICRO Int. PMO 130PC EXT.128MB	1,872
PMO-650I INT.128MB,19ms w/CTRL	3,008
PMO-1300AT EXT. 2 650MB, 19ms, w/CTRL	5,802
Ext. PMO-650E EXT. 650MB, 19ms w/CTRL	3,105
Ext. MFO-650 EXT.15ms,WORM w/CTRL	3,362
RCD-202 Recordable CD MAKER	3,864
PANASONIC LF3004 128MB	1,365
LF9000 EXT. 600 MB Mag. Optical	2,912
LF5014 WORM INT. WORM w/o CTRL	2,278
LF5010 WORM EXT. WORM w/o CTRL	2,402
SONY RMO-S350 Rewrite. Optical 128MB	1,495
SONY RMO-S550, 650 MB RW w/o CTRL	2,507

- ***LOWEST PRICE GUARANTEE ! ASK FOR DETAILS.***
- ***NOVELL, SCO, ARTISOFT*** trained & authorized.
- Over 20,000 items from over 700 vendors. Call us for those hard to find items. Our computerized catalog can locate them within seconds.
- **VISA & MASTERCARD** Accepted. NEVER A SURCHARGE.
- Same day shipping & NEXT DAY guaranteed delivery available on most orders.
- Courtesy TERMS available to Government, Education, & Fortune 1500 Accounts.

1-800-788-LANS

HOURS: M-F 8:00 AM TO 6:00 PM PACIFIC TIME
ADDRESS: 90 South Spruce Avenue, Suite N
South San Francisco, CA 94080
PHONE: 415-872-1376 **FAX:** 415-872-6634 CODE: MT39

- Fortune 1500 companies, Government, & Education P.O. accepted on approved credit.
- International orders accepted. Payment by Credit Card or Wire Transfer.
- Restocking fee applies to all non-defective returns and refused shipments. ***OPENED SOFTWARE IS NOT RETURNABLE.***
- Prices & Specifications subject to change without notice.
- We are not responsible for typographical errors.
- Shipping & Handling charges will be added to all orders.
- Quantity pricing available for 10 units or more.

Lowest Price for Brand Name VESA Local Bus

OverDrive P24T Socket Ready 238 Pin ZIF Socket	AIR EISA 486DX2-66 W/ 256K Cache	1170
OverDrive P24T Socket Ready 238 Pin ZIF Socket	AIR EISA 486DX-50 W/ 256K Cache	1080
Made in USA, 2 Vesa Local Bus Slot Basic	ORCHID VLB 486DX2-66 256K Cache	930
Made in USA, 2 Vesa Local Bus Slot Basic	ORCHID VLB 486DX-33 256K Cache	680
OverDrive P24T Socket Ready 238 Pin ZIF	AIR VLB 486DX2-66 W/ 256K Cache	920
OverDrive P24T Socket Ready 238 Pin ZIF	AIR VLB 486DX-50 W/ 256K Cache	820
OverDrive P24T Socket Ready 238 Pin ZIF	AIR VLB 486DX-33 W/ 256K Cache	670
Firm in USA, 2 Vesa Local Bus Slot Basic	BAY 486DX2-66 W/256K Cache	850
Firm in USA, 2 Vesa Local Bus Slot Basic	BAY 486DX-33 W/256K Cache	620
Landmark 64 MHz, Basic System with 1 MB	BAY 386DX-40 W/128K Cache	340
Landmark 53 MHz, Basic System with 1 MB	BAY 386DX-33 W/128K Cache	320
Landmark 33 Mhz, Basic system w/ 1MB	BAY 386SX-33	280

BASIC SYSTEM INCLUDE

MotherBoard & CPU
1MB of Memory • 1.2MB or 1.44MB Floppy Drive
Multi I/O 2s/1p/1g • Desktop or Mini Tower + P.S.
1:1 2HD / 2FD Controller • 101 Enhanced KeyBoard

* Please call for updated price for memory and cpu.

HARD DISKS (CONNER, MAXTOR, QUANTUM)	
40 MB IDE (28ms)	$135
100MB IDE (18ms)	$165
130 MB IDE (15ms)	$185
213 MB IDE (15ms)	$225
245 MB IDE (15ms)	$285
240 MB IDE Quantum w/256k cache	$295
340 MB IDE (13ms)	$320
520 MB IDE (12ms)	$690

UNIX-XENIX-NOVELL NETWARE	
Novell Netware 4.0 5/10 Users	$890/2090
Novell Netware 4.0 25/50 Users	$2995/3995
SCO Unix/ Xenix OS (1-2 User)	$390
SCO Unix/Xenix OS (3 + User)	$890/$620
SCO Unix/xenix Development	$890

VESA LOCAL BUS PERIPHERALS/ VLB	
AIR SCSI Local Bus SCSI-2 (Bus Master)	$260.00
Orchid IDE VLB + MULTI I/O	$ 75.00
IDE VLB + MULTI I/O for 486dx-50	$ 70.00
MICRONICS 486 VLB w/256 33/66 + CPU	$890/1170
ORCHID 486 VLB w/256K 33/50 MHz	$200/220
AIR 486 VLB ISA w/256K 33/50Mhz	$210/230
AIR 486 VLB EISA w/256K 33/50Mhz	$430/450
Dash 486 VLB ISA w/128K 33/50Mhz	$150/180
ATI Ultra Pro VLB w/ 2 MB VRAM	$365.00
Diamond Stealth-24 VLB S3 SVGA 1MB	$165.00
Orchid Farenheit VLB 1MB-2MB	$165.00
AIR Star 2000 Weitek P9000 Fastest	$380.00
ORCHID Weitek P9000 VLB 3MB (Fast)	$385.00
Diamond Viper VRAM VLB 2MB	$385.00

MONITORS	
SuperVGA (1024x768,0.39mm)	$230
SuperVGA (1024x768,0.28mm) Arche	$255
SuperVGA (1024X768, Non-int) Arche	$285
NEC 3FGe 15" Flat Screen	$595
NEC 4FGe 15" Flat Screen	$695
NEC 5FGe 17" Flat Screen	$1090
Viewsonic 6E/ 6FS (15")	$315/695
Nanao F550I 17" PC Mag Editor Choice	$1050

PRINTERS	
Panasonic KX-2180	$160
Panasonic KX-2123	$240
Deskjet 500/500C/550C	$385/475/689
HP IIP+/IIIP/IV	$785/875/1365

MISCELLANEOUS	
Toshiba internal XM-3401B (fast)	$438
AIR SCSI Local Bus Controller VLB	$260
Microsoft Mouse Serial Ergonomic	$70
SCSI Adaptec 1522 HD/FD	$95
SCSI Adaptec 1542C + EZ Software kit	$250
9600B/2400B FAX/ Modem	$60
14.4 K Modem/FAX v3.2,v,42bis MNP5	$165
Network NE2000 (Coaxial/10BaseT)	$85/95
Network SMC Etherlink II	$165
Media Vision Multimedia Kit + SCSI CDROM	$759
Pro Audio Spectrum 16 SCSI interface	$148
Tape Back-Up Drive 120/250	$145/195
Sound Blaster Pro 16 ASP	$205

ORCHID • AIR • DASH VLB COMPLETED SYSTEMS

ORCHID VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	ORCHID VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	ORCHID 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,240	$1,430	$1,495

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB SVGA + Maxtor 213MB + IDE VLB w/ I/O

AIR VLB 486-33 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486-50 W/ 256K CACHE MED-TOWER SYSTEM	AIR VLB 486DX2-66 W/ 256K CACHE MED-TOWER SYSTEM
$1,220	$1,430	$1,495

1.2 & 1.44 + Mouse + 4MB + Fahrenheit VLB SVGA + Maxtor 213MB + IDE VLB w/ Multi I/O Card

BAY VLB 486-33 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486-50 W/ 256K CACHE MINI-TOWER SYSTEM	BAY VLB 486DX2-66 w/256K CACHE MINI-TOWER SYSTEM
$1,080	$1,120	$1,280

1.2 & 1.44 + Mouse + 4MB + Cirrus Logic VLB SVGA + Maxtor 130MB + IDE VLB w/ Multi I/O Card

BAYCOMPUTER, INC.

VISA

1252 So. Abel Street, • Milpitas, CA 95035
Tel: (408) 956-8014 • Fax: (408) 956-8013

MasterCard

Store Hours: Mon - Fri: 9:30AM - 6:30PM • Sat: 10:00AM - 5:00PM

title, in terms of how many resources you can put into development?

Not so much as that—what we can put into a particular game is determined by the margin.

The problem though, today, until we get to CD-ROMs, is that the cost of goods is rising very quickly. If you have a ten-disk game, it's going to cost you about $10 to manufacture that product, before you think about royalties or the cost of actually developing the game, which could cost $2 or $3 million, typically. So you have to be a lot smarter about placing your bets, and it restricts the number of titles you can do at any one time. Companies that try to do too many, by reducing down the cost of their titles, not getting good quality games on the market, are really hurting right now, because nobody wants to buy their games. CD-ROM will change all that. CD-ROM will mean cost of goods will be down to $2 or $3 dollars for a particular game.

And you can get a lot more on them.

You can get tons more. So we're all looking forward to those days. To give you an idea what the cost of goods on a cartridge is, it costs us $20 to manufacture one Super Nintendo or Sega game.

So the margins are really, really bad.

Really, really bad. You have to have volume to sell them.

Speaking of CD-ROMs, what's this new release Iron Helix?

I like that product. You navigate around the space station; with a lot of CD games you have to wait as you go from place to place, but you don't have to do that with this game—it's continuous, so as you're walking down the halls, it feels like you're walking down the hall. And it's a great story.

The Drew Pictures guys [developers of Iron Helix] are good. They were going to sign with EA. I called them up one Sunday, "Don't sign with EA! Sign with me tomorrow!"

So what's the deal with Microprose?

Well, we announced our intent to acquire Microprose, and the merger agreement has been signed. It now has to go to a shareholder vote and a proxy, and the SEC has to review it, and they have to go through all of that work, which hopefully will be completed by the beginning of October.

[Microprose cofounder] Bill Stealey and myself had talked about this two and a half years ago—the general idea Bill and I had was that today in order to create great games, you need lots of capital, and talent is hard to find. One way to grow a business is by picking all the smartest and brightest people and merging them together under one umbrella company. In that way, we can be strong in many different areas rather than only one or two different areas.

The only problem was, Microprose had to go public because it kind of ran out of cash, and wasn't able to wait around to implement this. It's not the reason to go public, by the way. If you ever find yourself in that situation, that is a very bad situation, to have to go public. Put your house up for your third mortgage or whatever, but don't go public simply because you just need cash, or you're going to go out of business. Because it's going to be more problems than it's worth.

Our view was that there was an opportunity the last couple of months to get together with Microprose and continue in that vision. Here's an opportunity for Spectrum to strengthen its flight simulation lines, so that now we can actually do the electronic battlefield series—

Have all their planes fighting all your planes—

All their planes fighting all my planes, running across a network. They have a great storytelling system called the Advanced Graphics Adventure Group that can tell stories in a more traditional kind of way, and we're doing this cutting-edge synthetic story, so we're merging those two groups together. In a very quick stroke of the pen, we grow our business from kind of a small second-tier company into a very large first-tier company, and have the quality of people necessary to create the next great games for the next generation of hardware, and have all those people working together under one umbrella company.

Are you going to move their people out here?

No. Our view is that companies are creative by nature, and if you put them all under one roof, everybody adopts the same culture and you lose that creativity. It's much better to have satellite operations, independent sources of people with their own personality profiles creating their own kinds of games. Exchange lots of information, cross-fertilize with

Unlimited Optical Disk Storage!

Rugged, Reliable and a Worldwide Standard!
Forget about headcrashes and media wear, like with SyQuest and Bernoulli, when you use Opto Advantage from ValueStor. The 3.5" 128MB rewritable optical disk, an ISO-ANSI standard, has been proven to surpass the most stringent reliability requirements of government and banking institutions worldwide. Backed by a LIFETIME WARRANTY - optical disk dependability is unsurpassed!

Works Like A Hard Drive!
The high performance optical disk drive is *FAST* and works like a hard drive. It's compatible with virtually all DOS and Windows software. You can even double the disk capacity to 250MB using DOS 6.0.

The MORE You Need, The MORE You SAVE!
At 30¢ per megabyte, there is just no cheaper way to add quality data storage. So when you need to add more storage, archive huge files, distribute software and databases, do backups or build your multimedia libraries, look no further. ***OPTICAL DISK is the ideal solution!***

*Lifetime Warranty applies to rewritable optical disk media only.

at 30¢/MB and a LIFETIME WARRANTY!

OPTO ADVANTAGE

128MB Internal Drive	$ 799.
128MB External SCSI	$ 899.
Portable 128MB (Parallel Port Interface; works with desktop or portable PCs)	$ 999.
Rewritable Optical Disk 5 Pak (640MB)	$ 190.

Call to order

Value stor

1-800-873-VALU

GOLDEN MICRO COMPUTERS

BEST SERVICE IN TOWN

OPEN 7 DAYS

5 Years Labor Warranty
1 Year Parts Warranty
Extended Warranty Available!

EVERY SYSTEM INCLUDES:

1 MB RAM, 120MB IDE Hard Drive, SVGA Monitor (1024x768, .28dp) & Trident 1MB SVGA Card, 2 Teac Floppy Drives (1.2 & 1.44MB), IDE/IO Card, 2 serial, 1 parallel, and 1 game ports, 101 Enhanced Keyboard, Minitower or Desktop Case with Power Supply.

SYSTEM UPGRADES:

Add $30 for 256K cache • Add $150 for EISA Systems
Add $80 for Local Bus System (Includes VGA & IDE Interface)

VESA Local Bus 486DX 64K DX2-66/DX-50 DX2-50/DX-33 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
220/167/167/151 MHz

$1319/1289
$1199/1099

486DX 64K DX2-66/DX-50 DX2-50/DX-33 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
220/167/167/151 MHz

$1249/1199
$1109/1019

486SX 64K SX-25/SX-20 SLC-33/25 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- 8K Internal Cache
- Shadow RAM

Landmark speed:
112/90/90 MHz

$839/839
$819/799

386DX 64K 40/33/25 COMPLETE SYSTEMS

- 1MB RAM exp to 32MB
- Shadow RAM

Landmark speed:
65/55/41 MHz

$779/769
$749

386SX 40/33/25 COMPLETE SYSTEMS

- 1MB RAM exp. to 16MB
- Shadow RAM

Landmark speed:
43/34/23 MHz

$739/729
$719

CASE & POWER SUPPLY

Minitower w/200 Watt	$48
Desktop w/200 Watt	50
Mid Tower w/230 Watt	75
Full Tower w/250 Watt	99
200/230 Watt power supply	30/33
230/250 Watt power supply	39/41

VGA CARDS

VGA 800x600, 256K	$24
Oak 1MB	48
Oak 1MB Win Acc	59
Trident (8900CL) 1MB	53
Tseng ET 4000	74
SpeedStar 24X	169
Stealth w/Sierra	175
Oak 1MB WIN ACC (ISA)	59
Fahrenheit 1280 Win Acc (ISA)	139
Fahrenheit 1280 Win Acc (VESA)	149

ADD ON CARDS

MGP	$14
Super I/O (16550)	29
I/O (2s, 1p, 1g)	13
IDE I/O (2s, 1p, 1g)	14
4 Floppy controller	25
SCSI + IDE (16 Bit)	58
Ethernet (8 Bit)	50
Ethernet (16 Bit)	60
10 Base-T (16 Bit)	65
MFM Controller	25

PRINTERS

Panasonic 1180	$155
Panasonic 1123	199
Panasonic 1124i	285
Panasonic 1164	365

FLOPPY DRIVES

Teac 1.2MB 5.25"	$48
Teac 1.44MB 3.5"	44

MISCELLANEOUS

387SX25/16 Math Co	$61/59
387DX-40/33 Math Co	69/65
MS mouse (OEM)	40
Mouse (Ledgen)	11
Mouse (Keen/Agile)	9
Logitech MouseMan (OEM)	40
Power Center	15
TV Turner	139
Gallant Sound Card SC5000/SC4000/SC3000	119/89/69
Sound Pro Speakers	19

CD ROM

Sony CDU31A	$209
Mitsumi	175

KEYBOARDS

101 Enhanced	$18
Maxiswitch	29
Keytronic	33

MODEM

2400 Baud Internal	$25
9600/2400 Fax/Modem	45
9600 Modem External	169
14,400 Fax/Modem Int.	139

MOTHERBOARDS & CPU

286-12/16	$40/50
386SX-25/33/40	75/80/85
386DX-20	85
386DX-33 64K	115
386DX-40 64K	119
486SX-25/33 (CYRIX)	119/139
486SX-25 NC	139
486SX-25 64K	179
486DX-33 64K	359
486DX2-50 64K	459
486DX-50 64K	499
486DX2-66 64K	569

TAPE DRIVES

120 MB Colorado	$160
250 MB Colorado	199
250 MB Archive	149
120 MB/250 MB Tape	20/23

MONITORS

12"/14" Mono	$65/85
14" Mono VGA	99
14" SVGA (.39)	189
14" SVGA (.28)	229
14" Non-Int SVGA	269
Viewsonic 6E	319
14" Microscan 3E+	329
15" Microscan 4F	429

HARD DISK

40 MB Conner	$119
80 MB Conner	159
120 MB Conner/Maxtor	169
127 MB Quantum SCSI	169
170 MB W.D./Conner	189
245 MB Maxtor/Conner	239
340 MB Maxtor	299
540 MB Conner	559

PC Repairs & Upgrades Welcome

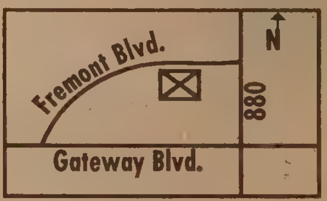
GOLDEN MICRO COMPUTERS

46560 Fremont Blvd, Suite 408
Fremont, CA 94538 FAX (510) 623-0321

(510) 623-0866

Hours M-F 9-6 Sat/Sun 10-4 ATM COD

Prices subject to change without notice. Not responsible for typographical errors.



each other, but we want the Microprose customer as well as the Spectrum HoloByte customer to still get their kind of products. And that requires that the groups be independent.

What's the point? It's cheaper just to hire the people. Why buy a company if all you're going to do is assimilate 'em all under one roof? It doesn't work that way in this business.

Microprose is public and you're private. How are you dealing with this interesting circumstance?

[*laughs*] It's a very interesting circumstance. It would be easier if they were private. It would be easier if we were public. In fact anything would be easier than the way we're doing this.

Basically, when the two companies are merged together, it will be one publicly held company, and we'll have our stock be fully registered, and our stock will be swapped with their stock and then we'll be moving forward.

But it means you have to have an army of lawyers. Somebody said, "This is a great way to save on brokerage fees. You don't have to go public now, Gilman... You backdoored your way in." I will tell you, it is as expensive doing it this way as it is going public. But we thought the company was very, very good, and had just tremendous people there, and there was a natural fit between the two organizations.

How is it that back in the garage days you were doing games instead of word processors?

I used to make paper games when I was a kid. My parents never bought us toys. They bought us scissors and cardboard and wood and nails—we made our own toys. So I was always fascinated by computers and thought hey, maybe I can take some of my board games—my favorite one was my Star Trek game—and make it into computer games. So I snuck down to City College in San Francisco and used time on their computers.

I always wrote games. I was going to major in computers, and my high school counselor said, "Don't major in computers. What are you going to major in computers for? Go major in business, and then you can do games for the rest of your life. Take as many computer classes as you like, but major in business and then figure out how to do what you love to do for the rest of your life." That was the greatest piece of advice I ever got.

San Francisco public schools have the honors program, with advanced placement classes. Typically you got tracked into one of those classes and you were tracked into them for the rest of your life. So I was always tracked into that, ever since grammar school. My problem was, of the thirty kids, I was always the thirtieth, and there were always twenty-nine kids a lot smarter than I was. Twenty-nine overachievers, and I was the guy dragging the curve down.

So it was really funny—my counselor said, "There will always be twenty-nine kids smarter than you. Therefore, why don't you go into business, and then you can hire them!" [*laughs*] "But if you try to be like them, you'll never be as good as they are." Good advice.

See, public schools do work!

You ran for San Francisco school board a while back. Why did you do that?

I was always interested in school and kids. It was sort of my payback to society. I really felt that nobody really paid much attention to schools, other than building contracts and personnel contracts. Nobody really cared about what it was like to be a kid in those schools, and I had to grow up there.

I remember when I was 16—I was a horrible 16-year-old. I spent more time protesting and causing problems in the school district than I did in my classes.

Well, it was the times.

It was the times...

I led a group for school reform, but 16-year-olds. And the superintendent said he wasn't going to let a bunch of 16-year-olds tell him how to run the school district.

So we just said, we'll be back. [*laughs*]

I serve on a lot of committees in the school district, and the San Francisco School Volunteers, which is a nonprofit agency that helps all the volunteer programs in the San Francisco public schools. It's very satisfying work, and one of these days I'll figure out how to make money in educational software and make that part of our business as well. I just haven't figured it out yet.

Mainly because I don't believe computers do a good job yet. They're not very effective in the classroom.

And if you can't afford a textbook, you can't be allocating computers. You can only spend $32 per student for textbooks in San Francisco public schools. It's a hard argument to make, to get a personal computer. (Spectrum HoloByte, 510/522-3584) ■

"BEST PRICES IN TOWN"

COMPU DATA

OUR SEVENTH YEAR IN BUSINESS

"A NAME TO TRUST"

CD LAPTOP SPECIALS

TOSHIBA T2200SX
•386SX/25MHz
•2MB RAM, 65MB HD
$1199

AST POWER EXEC
•386SL/25MHz
•4MB RAM, 120MB HD
$1599

NEC ULTRALITE
•486SL/20MHz
•2MB RAM, 120MB HD
$1399

IBM THINKPAD 300
•386SX/25MHz
•4MB RAM, 120MB HD
•COLOR $1349

TOSHIBA T1850C
•386SX/25MHz
•4MB RAM, 85MB HD
•COLOR $1799

TOSHIBA T1850C
•386SX/25MHz
•4MB RAM, 120MB HD
•COLOR $1999

ZENTH Z-NOTE
•386SL/25MHz
•4MB RAM, 80MB HD
$1599

MITAC 486SL
•486SL/25MHz
•4MB RAM, 130MB HD
$1699

COMPAQ PORTABLE
•486/33MHz
•4MB RAM, 210MB HD
$2899

CD ACCESSORIES

Best Prices in Town!

LASER PRINTERS
•Compaq Pagemarq 15 ..... $2200
•Compaq Pagemarq 20 ..... $2600
•HP LaserJet IIIsi $2900
(Appletalk /Postscript)
•Epson Action Laser II $549
•Okidata OL400 .... $449

PRINTERS
•Cannon BJ10EX $199
•Cannon BJ300 .... $294
•Diconix 180SI $250
•Epson LQ570 .... $249
•IBM Lexmar 4070 IJ $229

ACCESSORIES
•XIRCOM Lan Card for laptop $249
•Practical Peripherals Modem $199
•Intel Satisfaction 200 .... $225
•Mountain FS 8000 Tape Backup $450
•Mountain FS 7500 Tape Backup $899
•HP LaserJet Fax $475
•NEC 3FGX Monitor $500

SALES OFFICE

COMPU DATA

Now More Conveniently Located to Serve You Better

22 Third Street
San Francisco, CA 94103
415/495-3422
Mon thru Fri 9:30-6:30
Sat 11-5:00

"A NAME TO TRUST" OUR SEVENTH YEAR IN BUSINESS

AMERICAN EXPRESS MasterCard VISA DISCOVER

Best Financing. 90 Days Same as Cash.
Approval Within Minutes.

Prices subject to change without notice. Prices reflect 2% discount.
Not responsible for typographical errors. IBM is a registered trademark of International Business Machines.

Special Science Fiction Story:

We'll Return, After This Message

BY JOHN WALKER

When the foundations of everything you think you know shift beneath you, you can *feel* it. The night Art Crane and I found the Message, it felt like that moment at the onset of an earthquake when you realize the floor is really moving.

What we found that January night twenty years ago expunged a century's accumulated smugness about our place in the universe. And the funny thing is, we weren't even looking in the right place.

In December of 1997 it seemed as if humanity was well on its way to figuring out the universe. The discovery of the Proteus particle by de Vany, Trang, and Zweig handed the astronomers an all-in-one answer to the riddles of the missing mass and the solar neutrino deficit. The human genome project was winding down, having yielded, if little understanding, plenty of data. The ESA/Russian outer planet robots were flying in formation toward their Jupiter gravity kick, thence to Voyager's ports of call and onward to Pluto and Charon. The Shuttle was expected to return to flight any month. That glorious daylight supernova of 1996 was just beginning to fade from the nighttime sky.

* * *

When I answered the phone on that rainy day after Christmas, I wasn't surprised to hear Crane's usual request, "Cliff—I'm down here at the office. Could you come in and help me with something?"

Art Crane's a programmer, and a damned good one. But mostly he is the Bach of the wild-ass conjecture. You can't spend ten minutes with him without hearing him suggest a new mechanism for speciation in biology, opine that the roots of monetary inflation lie in the domestication of animals, or wonder how we'd know if just a *few* electrons had different masses. He writes every idea down in a little notebook he always carries, then he types them all into his machine every night. I haven't asked him how big the file is.

Crane's office resembled a centerfold from *Toxic Waste Monthly*. I suppose an archaeologist could date the slices of pizza by the quantity of mold.

He reads everything, seems to know all, has opinions on any topic you can name, but will gladly argue either side. He brooks no inaccurate facts or sloppy reasoning. He's the kind of person who'd be intimidating and unapproachable, if only he ever *finished* anything.

He isn't a flake. At least not all the time. When he gets a Big Idea, he's like a terrier. He grabs it and shakes it till it falls apart. Then he sniffs at the pieces.

For some reason, whenever he has a Big Idea, I always seem to get involved. Not that I mind. Except for the stock market idea. That one I minded.

Christmas day, Crane and I had been invited to Hack Watkins' for turkey dinner. Later, as we watched Watkins' kids reduce their holiday bounty to pieces siftable through chicken wire, Art was holding forth on his latest idea—second-hand SETI.

He was fascinated by pre-discovery observations. Galileo spotted Neptune and even charted it next to Jupiter in one of his notebooks. If the next night hadn't been cloudy, he'd probably have discovered it more than 200 years before Adams and LeVerrier. And only the year before, more than a hundred amateur astronomers took pictures showing the Orion supernova brightening before it burst into naked-eye visibility, but not one noticed it till after the fact.

Crane said this was inherent in modern science: building big new machines and using them for bold searches was sexy and easy to fund, but rarely did anybody rummage through the dusty archives until something interesting had turned up in new data. He figured that if we ever received a signal from another civilization, we'd probably find dozens of others buried in the archives, easily located once we knew what to look for.

When I headed home around midnight, he and Hack were kicking ideas back and forth about how image processing tools might be used to identify intelligent signals.

* * *

I showed up at the office around sunset. Not a soul was there, and only a few programmers.

Crane, who never rose before the crack of noon, rarely undertook serious work before six. I was surprised to discover him already in his office, surrounded by a midden of

Copyright © 1993 by John Walker. All rights reserved.

John Walker cofounded Autodesk and served as its first president and chairman. He is currently a programmer at the company's European technical center in Neuchatel, Switzerland.

End-of-Summer Blues? Get into an exciting project from HSC!

Summer's heat may not be fading just yet, but it's time to be thinking of back-to-school and back-to-work. Those indoor diversions and projects will benefit from the bargains at HSC!

Video Processor on a Budget!

Now you can enhanc
cleaning out
Vi

I
m
HS

Don't Forget!

Don't Miss It!

HSC's Giant 30th Anniversary Sale!

Saturday only!

Sept. 18, 1993 9AM to 5PM

This is the big, once-a-year blowout...
Nearly everything is on sale!...Up to 90% off!
Discounts on everything...Warehouse Clearance...
Many One-of-a-kind Specials...Close-outs...
Drawings...Prizes...Refreshments...
All three locations!

ctions from s 99¢ aisle

ns in this box are 99¢ each! not used)...stock up now!

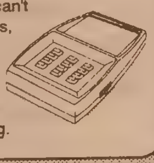
l Alum. Electrol. Caps, bag/100
l Alum. Electrol. Caps, bag/50
Alum. Electrol. Caps, bag/10
with three feet of cord
plastic saddle, 1/2", bag/100
tic saddle, RG58/59, bag/100
"F" conns.,1 x RCA conn.
" connectors, 3 ft. long
75Ω, with RCA conns, 15 ft.
e, grey, sheet of 24
r tail IC sockets, pack 50
r tail IC sockets, pack 15
cone paste), 1 Oz. tube
empty

Windows & DOS Deal!

The real stuff! Genuine Microsoft Windows 3.1 and DOS 5.0...now you can afford to upgrade fromearlier versions, or put them on that second computer you've just built. New, in-the-box OEM versions of these popular operating systems say Texas Instruments on the manuals and disks, but will work on any IBM or compatible computer. Comes with full manual and 3.5" diskettes. Won't last!

HSC# 14435	Microsoft DOS 5.0	$34.95
HSC# 14434	Microsoft Windows 3.1	$69.00

One-trick Phone Friend



This little novelty was meant as an easy-access dialer for one of the off-brand long distance services. You can't change the pre-programmed access codes, but it will remember the last number you dialed with it, so you could use it as a one-number (16-digits) memory re-dialer. Handy for those midnight overseas calls! Uses three button cells which might need replacing.

HSC# 14438 $4.95

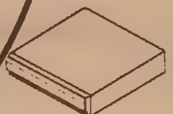
ollers found... Hurry before they Vanish!

FM Hard Disk controllers represent the last of a vanishing breed! No
re, so if you have a MFM drive or two and don't have a controller, you
-349 supports two floppies and 1:1 interleave for up to two MFM hard
drive activity light. Latest surface-mount technology means rugged
and new in antistatic bag, cables not included. Sorry, no docs yet.
n the secondary market, but controllers are another matter...hurry!
One year warranty! $39.95

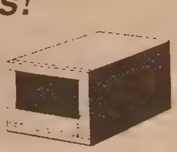
adquarters!

All drive enclosures fe
Styles A&B include ribl

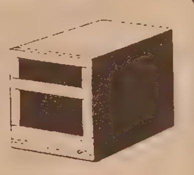
A. SKHD1 5
B. SKHD1/Open 5
C. SLHD2 60
D. SLHD3 60V



Style "A", "B"



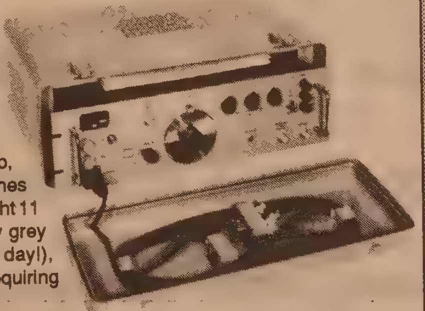
Style "C"



Style "D"

Neat Box yo ee ways!

This is the type of deal we love t , because it has so much potential. We bought these items for the r ut then discovered that the unit inside has a wealth of possibilities. We off some suggestions, let your imaginations run wild!



Option #1 -- Weathertight Equipment Case will accept a 19" standard rack-mount unit up to 5" high (with standard 5.25" front panel) and 11" deep. Gasketed front cover has cable storage clips, case has storage slot for .5" thick manual above unit. Outside dimensions are 20" x 7" x 15" deep, exclusive of rubber feet, four sturdy latches and spring-loaded carry handle. Weight 11 lbs. Constructed of aluminum, Navy grey color. Perfect for ham gear (field day!), instrumentation, or other projects requiring rugged, weathertight Mil-spec. case.

HSC# 14032 **$29.95**

Option #2 -- Frequency Converter Unit (removed from case above) Mod. CV-2353/U was used to mix external signals from 100 Hz to 2 MHz with an external oscillator signal for output to a spectrum analyzer. It also has a 3 MHz signal source that may be applied to the spectrum analyzer. We weren't too excited about this unit until we noted the high quality of construction of several nifty RF modules inside. It uses 115 VAC, has a balanced mixer, a ultra-stable VFO (2.985 - 3 MHz) with a beautifully clean sine-wave output, 600Ω step attenuator, stable -15 VDC power supply, and a 2.5 MHz IF amplifier module. We tested one, and after warmup the VFO drifted only 25 Hz! You could add a crystal oscillator and use the balanced mixer for a QRP Transmitter, or add a detector and modify the VFO for the desired band and have a HF receiver, use as a stable signal generator for HF, or you could add frequency multiplier stages for a stable VHF RF source, etc. Includes power cable, three BNC cables, manual w/ schematic. Unused!

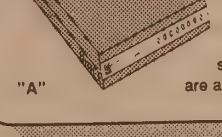
HSC# 14033 **$19.95**

Option #3 -- Buy both units above, only **$44.95**! What a deal!

Real Modems at Unreal Prices!

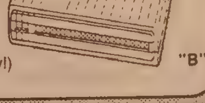
This will certainly excite people that know modems...genuine Telebit modems with their reputation for high speed and quality! We recently received a nice selection of used, factory-tested Trailblazer, Trailblazer Plus, Cellblazer, and T2500 modems. In addition to being compatible with regular PC modems (including Hayes), these units feature a proprietary protocol (PEP mode) that lets them communicate with each other (and other PEP modems) at super-high speed...19,200bps! Over normal voice lines! And it's all automatic! The 68000-based circuitry interrogates the recipient and selects the highest transmission speed for line conditions and receiving modem capability. In PEP mode, data rate "fall back" in case of line-noise or errors is in increments smaller than 100bps, instead of the 50% degradation from, say, 9600 to 4800bps that a typical modem will try. These units are popular with UNIX users, high-volume data-net and on-line service users, and business installations. Units in old-style cases (left below) measure 8.5" x 12.5" x 2", new-style cases (below right) are just slightly bigger. All have RS-232 Serial interface and come with new power supplies.

HSC#	Model #	Compatibility	Style	Price
14428	Trailblazer	PEP: up to 18,000 or 19,200bps w/ data compression, V.22bis (2400bps or 4800 w/ MNP-5), V.22 (1200bps), UNIX UUCP, Kermit, XModem, YModem, SDLC	A	$39.95 or 2 / $70.00
14429	Trailblazer Plus (early)	PEP: up to 18,000 or 19,200bps w/ data compression, V.22bis (2400bps or 4800 w/ MNP-5), V.22 (1200bps), UNIX UUCP, Kermit, XModem, YModem, SDLC, Sync.	A	$44.95 or 2 / $80.00
14431	Trailblazer Plus (late) also T-2000	PEP: up to 18,000 or 19,200bps w/ data compression, V.22bis (2400bps or 4800 w/ MNP-5), V.22 (1200bps), UNIX UUCP, Kermit, XModem, YModem, SDLC, Talk/Data	B	$49.95 or 2 / $90.00
14430	Cellblazer	PEP: up to 18,000 or 19,200bps w/ data compression, V.22bis (2400bps or 4800 w/ MNP-5), V.22 (1200bps), UNIX UUCP, Kermit, XModem, YModem, SDLC Same as Trailblazer Plus, but additionally optimized for Cellular phone use. Great for when lines are down, or when you're on the road! Works fine with land lines too.	B	$59.95 or 2 / $100.00
14430	T-2500	PEP: up to 18,000 or 19,200bps w/ data compression, V.32 (9600, 4800bps), V.22bis (2400bps or 4800 w/ MNP-5), V.22 (1200bps), UNIX UUCP, Kermit, XModem, YModem, SDLC. Photocopy of manual included.	B	$129.95



"A"

Note: Except for T-2500,
above prices do not include manual.
Copies of Trailblazer Plus or T-2500
manual (which is all we have, but
should help with any of above models)
are available for $10.00 (lots of pages to copy!)



"B"

Halted specialties co. HSC Electronic Supply

Toll Free (Orders Only) 1-800-4 HALTED (1-800-442-5833)

Retail Stores:

3500 Ryder St., Santa Clara, CA 95051 (408) 732-1573
4837 Amber Ln., Sacramento, CA 95841 (916) 338-2545
6819 Redwood Dr., Cotati, CA 94931 (707) 792-2277

Terms: Some quantities limited; all items subject to prior sale. **Minimum order: $10.00 plus shipping.** Orders under $20.00 subject to $2.00 handling fee, in addition to shipping. All orders shipped FOB Santa Clara, CA (this means you pay freight!) by UPS Surface (no P.O. Boxes) unless otherwise specified, in which case prevailing carrier rate plus $5.00 handling fee applies. Prepaid orders that don't include shipping charges will be shipped freight COD. There is a $4.00 UPS charge added to shipping charges for COD shipments. If you have questions about your order, please call Customer Service at (408) 732-1854 M-F 9AM to 5PM PST.

books, pieces of paper, and partially consumed processed food-like substances suggesting, by its height, that he'd been there for several hours. He turned from the screen as I walked in, “Cliff, glad to see ya. Look, we gotta get more crunch power on this job.”

This was the week for it.

The company always closed between Christmas and New Year's. It was a tradition they called the “Annual Week Of Rest,” which was a fine joke because there was another tradition that the programmers would use a week devoid of managers, marketeers, meetings, and memoranda to try to outdo one another in huge bursts of concentrated effort to impress each other, and just incidentally enrich their employer, when they staggered back, bleary-eyed, to another year of “regular work.” Not that it was expected, of course—but all the computers were left running that week anyway. The Exalted Founder had started it fifteen years ago and still kept at it, at least in theory. Nobody could tell, actually; he'd gone through some kind of comprehensional singularity and nobody understood anything he'd done in the last five years.

> **There's a feeling of power that comes from knowing you're doing more calculations every minute than all of mankind did from Pithecanthropus Erectus to 1950, but the novelty of even so remarkable a fact quickly pales into something akin to watching paint dry.**

Back in '97 Xanadu still wasn't finished, but if you knew where to look and how to access it on the Net, you could get most of the machine-readable raw science data since 1970. The Net was installing a new software release over the holidays and had declared connect time and data transfers free between Christmas and January 5 to encourage users to test it.

Art proposed to make the most of this. He planned to search all kinds of astronomical data, from the earliest radiotelescope sweeps to the downlink from the gamma ray imaging telescope in that converted shuttle tank with an algorithm he called the “annoyance filter.”

He figured the message would be a picture, and that it would be deliberately made easy to distinguish from a noisy background. This was right down Crane's alley. A couple of years before he'd been obsessed with the idea of developing a program to discriminate television programs from commercials. He wanted to start a company to make boxes that paused VCRs when commercials came on. He considered it an artificial intelligence challenge: “If any idiot can fast forward past a commercial, why can't we design a program to zap 'em?” He spent the better part of a year's spare time tweaking and tuning his algorithm before abandoning it; toward the end it worked pretty well, but wasn't good enough to sell—it recorded moody commercials and edited out climactic scenes of cop shows. It *did* zap all the car dealer ads.

He likened the problem to protective coloration. “If television is a medium that delivers entertainment at the price of advertising, then advertising and entertainment will coevolve to become indistinguishable in time.”

But in SETI, he believed, the incentives were different. “Signal to noise! Look, are you going to go before the Congress of Galactic Elders Subcommittee on Unessential Projects and try to justify spewing terawatts of soft-sell to the stars? Whatever they're sending, it's going to be obtrusive, blatant, shrill, noisy, coarse, and puffing. It will be calibrated to attract, to rouse, and to entice. Count on it...it's *advertising.*”

He started by taking the commercial zapper and optimizing it for single still frames by training it on magazine advertisements. Then he wrote a front end that scanned bit streams and applied a Fourier transform to recognize scan-line encoded images. These he planned to link into a tool that could process several hundred megabytes of raw data per hour per machine, generating very few false positives for intelligent messages. When I showed up, he said it was “coming along.”

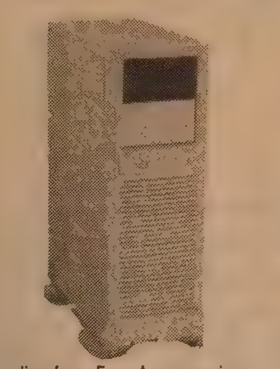
There are several distinct phases in an Art Crane project. The first is “inspiration”; he'll be consumed, usually without warning, by a Big Idea. He'll corner everybody in sight, talking a hundred words a minute, filling white boards with diagrams, shoving a sheaf of yellow paper in people's faces, and otherwise explaining why what he just thought of is not only the most important project on the planet at that particular moment, but painfully obvious to any vertebrate. Art has a talent for seeing how tools can fit together to do things they weren't designed for. His ability to estimate the difficulty of all the tasks involved in his plans is more modest.

“Coming along” means he's making steady progress, but doesn't have much to show for it. Eventually, he'll get an initial, crude version to work, achieving a characteristically grandiose milestone he calls “initial operating capability.” Thereupon he invariably “goes ballistic” as he begins to realize all the things he can add to the initial version. “Ballistic” is evocative not only of Crane's disregard of external guidance, but also of the frenzy and round-the-clock concentration that characterizes his efforts, rendering him in this mode more a force of nature than a colleague. This ends at a point of exhaustion when he's run out of things to add to the product or can't sustain the kind of effort he's been putting in, whereupon he enters the “gory details” period as he attempts to clean up all the loose ends and render the result usable to people other than himself. Finally, he deliberately “throttles back,” catches up on his reading, and comes within a standard deviation or so of a normal human being as he awaits the next Big Idea.

The progression of phases is as predictable as the Moon's, but their timing has none of the regularity of the cosmos, much to the exasperation of all who work with him.

Still, when he is good, he is very good indeed. Three times in the last decade he had singlehandedly come up with the concept and initial prototype of products that now collectively accounted for half the company's sales—each one stemming from a Big Idea unrelated to his regular work. This track record made management more

SPECIAL



Dual cooling fans, Easy Access swing open side doors, Slide 'n Snap drive rails, 4 exposed and 3 hidden drive bays, 230W UL power supply.

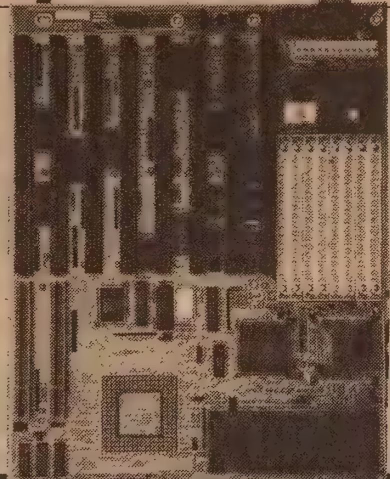
$149

upgrade to 250W UL PS	ADD $11
upgrade to 300W UL PS	ADD $25
Medium Size w/230W UL	**$120**

BIG SALE

★ GREEN PC COMING SOON! ★

Lynx's Users: IBM, Intel, NASA, AT&T



PRESENTING LYNX GALAXY 486VL BUS

MADE IN THE USA
FCC CLASS B
ONE BOARD FITS ALL
(Dealers Welcome)

CONTAQ chipset and AMI BIOS
Norton SI: 75.70 @ 33MHz, 107.20 @ 50MHz
Landmark: 160.2 @ 33MHz, over 200 @ 50MHz
100% Compatible w/ DOS, OS/2, XENIX, UNIX, NOVELL NETWARE, Win. NT
0K/128K/256K $99/119/145

LYNX VLB	Board & CPU	Basic System	LYNX	Board & CPU	Basic System
486DX2-66/128K	$620	$780	386DX-40/64K	$130	$290
486DX-50/128K	540	700	386DX-33/64K	125	285
486DX2-50/128K	435	595	386SX-33/64K	95	255
486DX-33/128K	420	580	386SX-25/64K	88	248
486SX-25/128K	255	415	486 EISA/VESA	CALL	CALL

Basic system includes: Board & CPU, 1MB RAM, One Teac Floppy, IDE Controller, 101 Enhanced Keyboard, Mini Case w/200W PS.

EVERYDAY LOW PRICES

CASES & POWER SUPPLIES

DELUXE Full-208GT (2 FANS, Easy Access Side Doors, 4 Exp'd, 3 hid'n, 230W UL)	$152
Mini-104T (4 exp'd, 1 hidden, 200W PS)	52
Med-106T (5 exp'd; 3 hid'n, 200W UL PS)	75
Full 108T (4 exp'd, 7 hid'n, 230W UL PS)	99
Full-42T (4 exp'd, 5 hidden, 220W UL PS)	80
Full-51T (7 exp'd, 1 hidden, 220W UL PS)	95
Mini- V103T (4 Exp'd, 5 Hidden, 220W PS)	70
Desktop- S203D (4Exp'd, 2 Hidden, 200W PS)	75
Desktop- K101D (1Exp'd, 2 Hidden, 100W PS)	80
Desktop- K101D (1Exp'd, 1 Hidden, 60W PS)	80

POWER SUPPLIES

Full PS 230W UL/250W UL/300W UL	$49/59/77
Baby PS 200W /200W UL/230W UL	37/41/45

FLOPPY, HARD, TAPE, & CD-ROM DRIVES

TEAC 1.2MB/1.44MB FDD	$48/42
All Hard Drives	CALL
Colorado 120/250MB Tape Drive	149/195
Sony CD-ROM (31A) w/Controller	229
Toshiba 3401B/3401E CD-RIN (Int/Ext)	434/545
w/Controller	ADD 70
NEC CDR 74/84-1 CD-ROM (Ext/Int)	580/459
Media VisionFusion CD-16 upgrade kit	CALL
NEC Multimedia Upgrade Kit (Int/Ext)	895/995
Sound Blaster Pro Multimedia Kit w/6 CD Titles (Int/Ext)	510/520

VGA CARDS

MGP/MCGP Card	$13/19
ACUMOS SVGA Card 256/512K	33/44
TRIDENT SVGA Card 1MB	55
Diamond SpeedStar 24X 1MB 16 Mil Colors	154
Diamond Stealth VRAM 1MB Hi-Color	199
Diamond Stealth-24 DRAM 1MB ISA/VLB	175/189
Diamond Stealth Pro VRAM 1MB/2MB VLB	265/365
Diamond Viper (P9000, 2MB VRAM)	395
ATI Graphic Ultra Plus2 VRAM/w mouse	277/307
ATI Graphic Ultra Pro VRAM 2MB ISA/VLB/EISA	369/375/475
Genoa 7900 1MB 16 Mil Colors 24 Bit	109
ORCHID Pro-Designer II's 1MB Hi-Color	145
ORCHID Fahrenheit 1MB 24-Bit VLB/VA	163/197
ORCHID Fahrenheit P9000 VLB 2MB	359
AMI Fast View EISA VGA Graphics 1MB	269
AMI Fast View P9000 VLB 2MB	395

PC Editor's Choice

PC MAGAZINE EDITOR'S CHOICE

Sept . 1992
Volume 1 Number 6 (U.K.)

Caching + Mirroring EISA Fast SCSI (DC-820)

- Adaptec 1540/1542 compatible
- Hardware Disk Mirroring Support
- Cache expandable to 16MB
- High Speed 32 Bit bus master, burst data transfer up to 33MB/sec
- Fully support SCSI-I & SCSI-II protocols
- Coexists with other SCSI, ESDI or IDE card
- Support up to 8 drives for DOS 5.0
- Support Max. DOS disk capacity of 4.5 GB

$399

VESA Bus IDE CACHE CONTROLLER (DC-680)

- < 0.3 msec Disk Average Seek Time
- Max Data Transfer Rate (VESA BUS to cache) : 20 MB/sec
- Max Data Transfer Rate (Disk to cache) : 5 MB/sec
- Supports up to 4 IDE drives & 2 Floppy drives
- WD 1003 Emulation Mode Support
- >528MB Drive support for DOS & Windows
- Cache expandable to 16MB

$159 (Local Bus)

YOUR NETWORK SOLUTION
Networking Specialists

LTI provides the most reliable Novell Network Design, Cabling, and Installation, Hardware Configuration and System Integration, Back-up Service & Data Recovery PC & Network. When you come to LTI you've made the right choice!

MONTHLY SPECIALS

• TEAC 1.2MB/1.44MB FDD	$48/42
• HARD DRIVES/CD-ROM	$CALL
• Removable IDE HDD Kit	$36
• TOUCH/Arche 14" SVGA.28 Monitor Int/NI	$239/269
• ADI MicroScan 3E/3E+/3G/4G NI Monitor	$325/345/350/455
• NE-2000 Ethernet Card Coax/Twist-Pair	$65/69
• Full Tower Case w/220W PS (42T)	$80
• Mini/Med Tower w/200W PS (104T/106T)	$52/75
• MGC 15" NI SVGA Monitor (1280x1024)	$399

1 YEAR PARTS /3 YEARS LABOR/LIFETIME TECH SUPPORT LIMITED WARRANTY

EVERYDAY LOW PRICES

VIDEO DISPLAY MONITORS

Mono 12"/14"	$75/94
ADI MICROSCAN 3E (1024X768 .28 NI)	325
ADI 3E+/Low Rad	355/365
ADI 4G 15" 1280 SVGA	455
TOUCH 14" SVGA .28 Monitor Int/NI	239/269
NANAO 9070U/9080i (16" 1024X768 .28)	955
NANAO F550I (17" 1280X1024 .28)	1075
NANAO F560I (17" 1280X1024 .25)	1690
NANAO T660I (20" 1280x1024 .31 NI, Trinitron)	2585
NEC 3FG/4FGE (15" 1024X768 .28)	579/709
NEC 5FG (OEM) (17" 1280X1024 135MHz)	1099
NEC 6FGX (OEM) (21" 1280X1024 135MHz)	2385
SEIKO CMI 1450 (NI) (1024X768 .28)	425
SEIKO CMI 2050 (1024X768 .31 NI)	1495
SONY 1304S (14" 1024X768 .25 NI)	595
SONY 1604S (OEM) (17" 1024X768 .25)	965
SONY GDM 2038 (20" 1280X1024 .30)	2295
VIEWSONIC 5E/5+	395/495
VIEWSONIC V6E (14" 1024X768 .28)	335
VIEWSONIC V6FS (15" 1024X768 .28)	575
VIEWSONIC V7 (17" 1280X1024 .28)	975
VIEWSONIC V8 (20" 1280X1024 .31)	1559
MGC 15" 1280 NI	399

KEYBOARD, MOUSE & SCANNERS

MaxiSwitch/KeyTronic 101 Keyboard	$34/34
OMNIKEY 101 NI/102/ Ultra	69/79/99
LOGITECH MouseMan Ser/Bus NEW	62/62
LOGITECH TrackMan Ser/Bus /PT	72/79/99
MicroSoft Mouse Ser/Bus	69/79
Handy Mouse	10
Microsoft DOS 6.0/Microsoft Windows 3.1	50/45
Focus FK 9000	69

MODEMS

2400 bps Modem Int/Ext	$35/70
2400 bps Data+9600 bps Send/Recv Fax Int Modem	65
Hi-Speed 14400 Fax	169
9600 V.32 + MNP + V.42 bps Int/Ext Modem	285/399

CONTROLLERS

DC-600B Cache IDE ISA	$135
DC-680 Cache IDE VLB	169
DC-620 Cache IDE EISA	209
DC-820 Cache SCSI EISA	399
Adaptec 1542/1522	199/139
IDE VLB Add-On	55
AT/IO (2S/1P/1G)	14
IDE 1:1 2HD/2FD Controller W/Cable	14
IDE 1:1 2HD/2FD & 2S/1P/1G W/Cable	16
IDE 1:1 2HD/4FD Controller	45
AT 1:1 MFM 2HD/2FD Controller	45
Serial (RS232) Card/Parallel (Printer) Card	13/14

LOCAL AREA NETWORKS

Ethernet NE-1000/NE-2000 Coaxial	$55/65
Ethernet NE-1000/NE-2000 10-Base T	58/69
ARCNET 8/16 Bit Coaxial Star	41/64
ARCNET 8/16 Bit Twisted Pair	47/74
MAXLANStarter Kit (8 bit/16 bit)	185/199
LANtastic AE-2/AE-3 Starter Kit	479/549
LANtastic AE-2/AE-3 Adapter	219/249

NEW Location

LYNX

LTI Leopard Technology

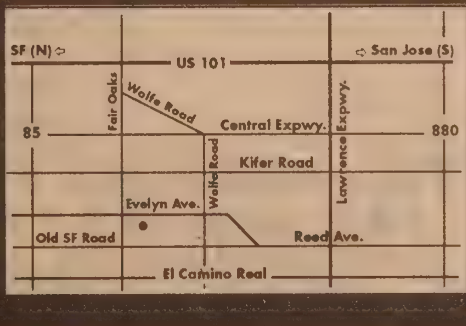
INTERNATIONAL
624 E. EVELYN AVENUE, SUITE A SUNNYVALE, CA 94086

NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE.
Prices reflect special discount

CALL FOR PRICES

(408) 481-9288 FAX:(408) 481-0866

STORE HOURS
MON-FRI 9AM-6PM
SAT 10AM-5PM
SUN BY APPT. ONLY
SINCE 1987



than willing to endure his eccentricities and propensity to indulge in what Watkins called "art for Art's sake."

He picked up the pizza box to the left of his keyboard and carefully stacked it atop a pile of books to clear a workspace. Grabbing a yellow pad and pen, he explained what he needed from me. "We can do this, but we've only got nine days till the Net starts charging again. Remember that cycle sucker animal you built for the inlet problem? That's what we need to drive the filter."

For once, what he wanted wasn't that hard. Last year when we'd worked on a hypersonic fluid flow problem for the Japanese spaceplane, I'd partitioned the job to throw all the idle time on all of our workstations at it. This was easier. All I had to do was take the data stream from the Net and apportion it out to all the compute resources I could lay my mitts on with an eenie-meenie-miney-moe distributor. With five hundred workstations rated at a gigaflop or better sitting idle until the new year, we'd be able to cull a lot of data in a few days.

I went down the hall to my office, turned on the monitor, and set to work. The linear flow of real time changed into programming hours, measured more by the accumulation of pop cans, pizza and Chinese take-out boxes, and crumpled sheets of yellow paper than by numbers on the wall clock.

Art continued to tune the annoyance filter while I developed tools to obtain raw data from the Net, translate them into a uniform format his program could read, and partition the compute job among the machines in the building. Hours passed, then days. I went home and slept when I was too tired to go on, and I presume he did too.

We'd both finished by Monday the 29th. When I arrived, Art had queued me mail saying, "Ready when you are." I walked down the hall thinking how odd it was that I'd been collaborating on a project with him, working in the same building, but hadn't seen him for four days. When I reached his office, I realized this was a good thing; the remains bespoke a major ballistic episode. Crane's office resembled a centerfold from *Toxic Waste Monthly*. I suppose an archaeologist could date the slices of pizza by the quantity of mold.

I focused on the task at hand. It took a couple of hours to integrate Crane's filter with my dispatcher. When we were done, we ran some tests to measure the total compute power we were getting, then some known data checks to make sure we hadn't messed anything up. Around midnight we were ready to start on live data. For the last several days I'd been keeping our Net link busy transferring files we wanted to search to our local server since we could process on-site data much faster than remote files across the Net. Also, I wanted to copy as much data as I could while Net access was free. I didn't have the time to be very discriminating in my acquisitions; if a Net site had some files of interest and didn't publish a huge amount of data, I just figured, "Grab it all. Let Crane sort it out."

I entered the command to start the root task. It cloned itself onto every active workstation in the building, then each copy started pulling files to be searched from the master task queue and commenced scan-

continued on page 220

ALL 100% GUARANTEED PARTS

IMD

WE ARE YOUR BEST SOURCE FOR COMPONENTS
WE WON'T BE UNDERSOLD!

WE WILL TRADE YOUR OLD MEMORY FOR NEW

SIMM MODULES

IBM COMPATIBLE	
4M X 9-80	$125
4M X 9-70	137
4M X 9-60	151
1M X 9-10	28
1M X 9-80	33
1M X 9-70	35
1M X 9-60	37
1M X 3-80	30
1M X 3-70	34
1M X 3-60	36
256 X 9-10	8
256 X 9-80	9
256 X 9-70	11
256 X 9-60	12

APPLE/MAC	
1M X 8-10	$28
1M X 8-80	31
1M X 8-70	33
4M X 8-80/70	119/124

DRAM	
1M X 1-80	$3.70
1M X 1-70	3.80
1M X 1-60	3.90
1M X 4-80/70	17.00
256K X 1-80	1.65
256K X 1-70	1.80
256K X 1-60	1.95
256K X 4-80	3.95
256K X 4-70	4.15
256K X 4-60	4.30

CPU'S	
486DXII-66 INTEL	$489
486DXII-50 INTEL	375
486DX-50 INTEL	409
486DX-33 INTEL	279
486DX-25 INTEL	229
486SX-25 INTEL	99
486SX-33 INTEL	189
386DX-33 INTEL	64
386DX-40 AMD	69
386DX-25 INTEL	35
386DX-25 AMD	33
386SX-25 INTEL/AMD	30
386SX-20 INTEL	25.
386SX-16 INTEL	20
386DX-20 INTEL	25

BUSINESS AND ECONOMY SYSTEM SPECIALS	
486-50MHz	$1799
486-33 DLC	1149
386SX-16/25	989
386DX-25/33 64K CACHE	1299
486SX-20/25	1099
486DX-33	1699

ALL SYSTEMS INCLUDE:
Tower Case, 4MB, IDE Controller, 2SPG, 1.44FDD, HDD, 1MB SVGA Card, 28 CIR. Monitor, 101KB, Mouse, DOS

CALL FOR CUSTOM CONFIGURATIONS!

MOTHERBOARD W/0 CPU	
486DX-50 W/256K CACHE	$125
486DX-33 W/64K CACHE	117
386DX-40 W/64K CACHE	95
386DX-33 W/64K CACHE	91
386SX-16 W/CPU	89
386SX-25 W/CPU	105
386SX-33 W/CPU	159

HARD DRIVES

CONNER	40MB IDE	$129
	80MB IDE	164
	120MB IDE	199
	200MB IDE	289
	240MB IDE	309
	520MB IDE	759
MAXTOR	80MB IDE	199
	130MB IDE	209
	360MB IDE	399
	340MB SCSI	545
	660MB	CALL
QUANTUM	52MB IDE	149
	120MB IDE	185
	240MB IDE	279
SEAGATE	40MB IDE	129
	105MB IDE	189
	130MB IDE	199
	200MB IDE	325
CDC	91.5MB SCSI	199
FUJITSU	540MB IDE	749

CALL FOR BEST PRICES ON SCSI & IDE HARD DRIVES NOT LISTED!

OPEN M-F 9-5:30 SAT 10-2

MONITORS	
MONOCHROME 12"/14"	$75/99
MONO VGA 14"	119
14" SVGA 0.28	239
NON-INT SVGA 0.28	259
SONY 1304	749

FLOPPY DRIVES	
1.2MB TEAC 5.25"	$51
1.2MB SAMSUNG 5.25"	49
1.44MB TEAC 3.5"	46
1.44MB SONY 3.5"	49

TAPE BACK-UPS	
120MB COLORADO	$189
250MB COLORADO	249
500MB PORTABLE	CALL!

MATH CO'S	
387DX 16-33 INTEL	$72
387DX INTEL	69
387SX 25,20,16	CALL
387DX 33,25,20 CYRIX	69
4167-33 WEITEC	499
4167-25 WEITEC	319
3167-33 WEITEC	199
3167-25 WEITEC	99

LASER PRINTER MEMORY	
HP II &IID, CANON LBP-811 & LBP-811R, OLIVETTI PG 108 & PG 208	
1MB BOARD	$79
2MB BOARD	109
4MB BOARD	169
HP IIP, III, IIID	
1MB BOARD	79
2MB BOARD	109
4MB BOARD	169
IBM 4019 & 4019B	
1039136 1MB BOARD	105
1039137 2MB BOARD	139
1038675 4MB BOARD	299
IBM 2029e	
1MB	75
2MB	99
4MB	175
TI MICROLASER & MICROLASER PS	
1MB	85
PANASONIC KX-P4420, KX-P44501	
1MB BOARD	129
2MB BOARD	157
4MB BOARD	229
EPSON EPL-6000; TOSHIBA PAGELASER 6; PACKARD BELL PP9500; FACIT P6060; MANNESMAN TALLY 905; AT&T 593 LASER; NCR 6435 LASER	
1MB BOARD	155
2MB BOARD	160
4MB BOARD	260

TEL: 408-452-7700
FAX 408-452-7771
1630 OAKLAND RD. A108
SAN JOSE, CA 95131

MasterCard
VISA

IMD INTERNATIONAL MICRO DEVICES

IMD Offers complete satisfaction with every transaction. Same day shipping. Prices subject to change without notice. All trademarks are the property of their respective owners.

ASK ABOUT OUR SYSTEM LEASE PROGRAM

UNIVEL
A Partnership of Novell and USL

IBM

SBT
CORPORATION

Novell Authorized Reseller

SCO
AUTHORIZED RESELLER

JUMP

JUMP MICROSYSTEMS, INC.
NETWORKING SPECIALIST

SunSoft
A Sun Microsystems, Inc. Business

100 MBPS LAN is Here!

Free telephone support from Enterprise CNE when you purchase Netware from Us!

We Specialize in High-Technology and Office Automation Solutions!

SERVICES

- Novell Network Design, Cabling, and Installation
- Novell Authorized Enterprise CNE, Henry Lu
- Hardware Configuration and System Integration
- SBT Accounting Software Installation
- SCO Unix Operating System Installation
- PC X-window and PC/TCP Connection
- Development of Relational Databases
- TCP/IP Communications
- GUI and X-Window Graphics Products
- Interlink Specialist for IBM-UNIX-NOVELL

DEMONSTRATIONS

At Jump MicroSystems we offer complete office solutions. We demonstrate every software, UNIX and Networking product for you, and explain all of the features of each product. We will also consult with you and recommend the best solution for your needs.

- SBT Series 7 and Pro 2.5 Demonstration
- SCO, SunSoft Solaris, Univel, Unixware Hardware configuration and Demonstration
- Netware 4.0, Netware Lite, Lantastic Demonstrations
- Univel Products Demonstration

PRODUCT SPECIALS

Ethernet Cards TE-2000	59
Netware Lite & NE2100 Adapter	101

We carry the complete line of networking products from the manufacturers listed below. Please call for information on products not listed for pricing and availability of items.

Ethernet Adapter, EISA Bus

INTEL EtherExpress EISA 32bit	$445
3Com 3C579 EISA	247
3Com 3C579 EISA 5-pack	1040
3Com 3C579TP EISA	247
3Com 3C579TP EISA 5-pack	1035
Eagle NE3200 EISA 32bit	679

Novell Networking Products

Netware Lite	$65
Netware 3.11 all versions	CALL
Netware 4.0 all versions	CALL
Netware 3.11 and 4.0 Upgrades	CALL
All Other Novell Products	CALL

Ethernet Adapter 10BaseT

NE-2000 Comp. Ethernet Adapter	$65
Intel EtherExpress-16TP	114
Intel EtherExpress-16TP 5-pack	510
Intel EtherExpress-16TP 20-pack	1955
SMC WD8013 EtherCard	126
SMC WD8013 EtherCard 6-pack	680
SMC WD8013 EtherCard 24-pack	2420
3Com 3C509 Etherlink III TP	144
3Com 3C509 Etherlink III 5-pack	645
3Com 3C503-16TP	183
3Com 3C503-16TP 5-pack	791
Xircom Pocket Ethernet III Adapter	299

Ethernet Adapter, Thin

NE-2000 Comp. Ethernet Adapter	$65
Intel EtherExpress-16	114
Intel EtherExpress-16 5-pack	510
Intel EtherExpress-16 20-pack	1955
SMC WD8013 EtherCard	126
SMC WD8013 EtherCard 6-pack	680
SMC WD8013 EtherCard 24-pack	2420
3Com 3C509 Etherlink III	144
3Com 3C509 Etherlink III 5-pack	645
3Com 3C503-16	183
3Com 3C503-16TP 5-pack	791
Xircom Pocket Ethernet III Adapter	299

Ethernet Adapter, Micro Channel

Intel EtherExpress, MCA	$180
Intel EtherExpress TP, MCA	180

Ethernet Adapter, EISA Bus

INTEL EtherExpress EISA 32bit	$445
3Com 3C579 EISA	247
3Com 3C579 EISA 5-pack	1040
3Com 3C579TP EISA	247
3Com 3C579TP EISA 5-pack	1035
Eagle NE3200 EISA 32bit	679

Token Ring Products

Token Ring Adapter 4/16 IBM chip	$360
Token Ring Adapter 4/16 National	328
Token Ring MAU 8 port	371
Proteon TR 4/16 Adapter	418
Proteon TR 4/16 Adapter 10-pk	3990
Proteon UTP MAU, 8RJ-45	639
Madge Smart 16/4 Ringnode	$611
Madge Smart 16/4 Ringnode 10-pk	5214
Madge Smart 16/4 EISA Ringnode	850

Hubs, Repeater & Concentrators

8 Port 10BaseT Ethernet Hub	$190
12 Port 10BaseT Ethernet Hub	390
BNC/BNC Repeater	345
Networth MicroHub, 9 port	399
3COM Linkbuilder 10BaseT Hub	715
3COM Linkbuilder FMS10BT Hub	953
3COM Linkbuilder FMS CoaxHub	1620
Asante 10BT Hub 8RJ45 1BNC	269
Asante 10BT Hub 12RJ45 1BMC	509
Asante AJ1701 SNMP 10BT Hub	1020
Microdyne 16 port 10BT Hub	659
Microdyne 8 port 10BT Hub	350
Synoptics Concentrators	CALL

Servers UPS

APC Smart UPS AP900XL	$1190
AP900XLBP extended run module	346
APC Smart UPS AP2000XL	1790

Tape Back ups

Maynstream Int 2GB SCSI bundle	$1820
Maynstream Ext 2GB SCSI bundle	1995
Cheyenne Arcserver backup NLM	CALL

Misc. Network Accessories

50 Ohm Terminator	$4
RG-58, RG-62	CALL
Level III, Level IV 10BaseT Cable	CALL
Token-Ring Cables	CALL

Thomas-Conrad 100 Mbps

TC3045-cx 100Mbps Adapter, RG62	$516
TC3045-ST Fiber-optic Adapter	810
TC3050 8 Port Hub w/Mngt	1273

Macintosh Networking Products

Asante MC+ 10Mbps Enet	$CALL
Dayna DL2000 Apple Bus 10Mbps	250

Fax Servers and Modems

Intel Satisfaxtion Modem/200	$320
Intel Satisfaxtion Modem/400	430
Intel Net Satisfaxtion 20-user	630
Castelle FaxPress	CALL
Optus Fax server	CALL

Network Print Servers

Okidata OL400	$549
Intel Netport II Print server	544
Xircom Pocket Enet Print server	411
Castelle Lanpress/Jetpress	CALL

Sunsoft/Interactive/Solaris

Solaris/PC V2.1 Desktop, CD, TRU	$680
Solaris/PC V2.1 Workgroup, CD	1695
C Compiler for Solaris	799
C++ Compiler for Solaris	1295
Network Adapter for PC Solaris	CALL

Other Sunsoft Products

Interactive4 Multiuser 3.5"	$371
Netware Sunlink 1.0, 10-user	995
PCNFS V5.0 Media, Doc, RTU	395

SCSI CD-ROM for PC Solaris

Adaptec 1542C SCSI Controller	$210
NEC CDR-74e SCSI CD Drive	590
NEC CDR-84i SCSI CD Drive	465
Sony CDU54i SCSI CD Drive	510
Texel DM-5024e SCSI CD Drive	499
Toshiba TXM-3401i SCSI CD Drive	CALL
Internal Tape Drive for PC Solaris	CALL

Mother Boards

486DX-66 VESA	$695
486DX-66 ISA	600
486DX-50 w/2 VLB	560
486DX-50 ISA	530
486DX-33 ISA 128K Cache	399
IBM 486SLC/50 ISA	CALL
IBM 486SLC/66 ISA	CALL

Hard Drives

Maxtor 7345A 345MB IDE	$325
Quantum LPS-525 SCSI	800

VGA Cards and Monitors

CTX 14" SVGA .28mm	$305
CTX 14" SVGA .28mm NI	335
CTX 17" SVGA .28mm 1280x1024 NI	CALL
Diamond Stealth 24/pro/VLB	CALL
Orchid ProDesigner IIS	140
SVGA/512K/1M	CALL

SBT Accounting DataBase

SBT Series 7	$CALL
SBT Professional Series v2.5	CALL

Medsoft-Medical Software

Medical Practice Manager	$CALL
Dental Practice Manager	CALL

E-Mail and other Products

Da Vinci E-mail for DOS/Windows	$CALL
Notework E-mail for DOS, 5k-TSR	CALL

Univel Products

Unixware P.E.	$179
Other Unixware products	CALL

SCO Unix

Personal System V Release 3.2.4	$345
Other SCO Unix products	CALL

Microsoft Products

Windows for WorkGroup	$CALL
PC Mail & Schedule+ for Windows	CALL
Other Microsoft products	CALL

Action+Plus

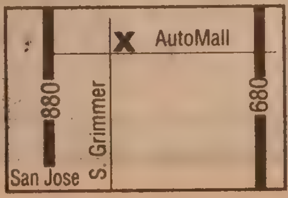
Contact Manager Lite	$99
Contact Manager	299
Contact Manager Network version	795

JUMP

43446 South Grimmer Blvd.
Fremont, CA 94538

(510) 440-8006
Fax (510) 440-0703
Hours: M-F 9-6 SAT 11-4
ATM Pay Point

MasterCard
VISA



Preview: ConFrancisco

51st World Science Fiction Convention
Moscone Center, San Francisco
September 2–6, 1993

Over seven thousand people from around the globe are expected to attend ConFrancisco, which begins on September 2 and features panel discussions, an art show, a masquerade competition, and many other activities showcasing the creativity of the science fiction community.

Prominent among the events is the annual presentation of the Hugo Awards, honoring excellence in the science fiction and fantasy genres. Previous Hugo winners Larry Niven and Alicia Austin will be among ConFrancisco's honored guests, and many well-known publishers, writers, and artists will attend.

In addition, hundreds of panels, lectures, and workshops offer topics of interest to a broad range of enthusiasts, much of it touching on the convergence of the computer world and science fiction. Among the titles:

Inventions That Really Did (or Will) Change History
Computers and Class
How Hard Can It Be to Start a Game Company?
Virtual World Building
REAL Computer Art
Ghost Tales Around the High-Tech Campfire
Computer Security and Privacy
Neural Nets
Molecular Manufacturing
Computer-Generated SFX
Building Bridges: Telecommunications, Telepresence, and Virtual Reality
Workable Technology That Isn't Being Worked
Telling Your Story in a New Way: Non-Paper Publishing
Talking Computers and Robots in the Home and Office
Ethics in the Age of Computers
So You Want to Be a Computer Game Designer
Have Special Effects Taken Over?
Introduction to Computer Networking
New SF Community: Fans & Pros Online

Other themes range from "Science in Star Trek" to "Across the Rim: Japanese Science Fiction Fandom" to "Testosterone Poisoning" to "Brewing in Space." Additionally, there will be computer graphics presentations by Disney and Industrial Light and Magic.

The convention runs from Thursday, September 2 through Monday, September 6. For registration and other information, contact ConFrancisco, 712 Bancroft Road, Suite 1993, Walnut Creek, CA 94598, (510)945-1993, fax (510)945-8705.

Special Events

Opening Ceremonies: Thursday, 8 pm, Esplanade Ballroom
Meet the Guests Reception: Friday, 7:30–9 pm, Parc 55 Con Suite
Music/Filk Concerts: Friday, Saturday, Sunday nights, ANA Hotel
'60s Rock Dance: Friday, 9 pm, ANA Metro Ballroom
Science Fiction and Fantasy Masquerade: Saturday, 8 pm, Esplanade Ballroom
Regency Afternoon Tea Dance: Sunday, 2–5 pm, ANA Metro Ballroom
Hugo and Other Award Ceremonies: Sunday, 8 pm, Esplanade Ballroom
Time Traveller's Fashion Parade: Monday, 11 am–noon, Esplanade Ballroom
Closing Ceremonies: Monday, 3 pm, Esplanade Ballroom

Program

(subject to change)

Main Programming: Panels, Lectures, Presentations, Workshops

Thursday 2–7 pm
Friday 10 am–7 pm
Saturday 10 am–7 pm
Sunday 10 am–7 pm
Monday 11 am–3 pm

Readings and Autograph Sessions

Friday 10 am–5 pm
Saturday 10 am–5 pm
Sunday 10 am–5 pm
Monday 11 am–noon

Kinesthetic Track of Physical Activities (Aerobics, Martial Arts, Tai Chi, Dancing)

Friday 9 am–5 pm
Saturday 9 am–5 pm
Sunday 9 am–5 pm
Monday 9 am–noon

Young Fans' (Children's) Programming

Thursday noon–5 pm
Friday noon–5 pm
Saturday noon–5 pm
Sunday noon–5 pm

Meetings:

World Science Fiction Society

Friday noon
Saturday noon
Sunday noon

SFWA (Professional SF Writers)

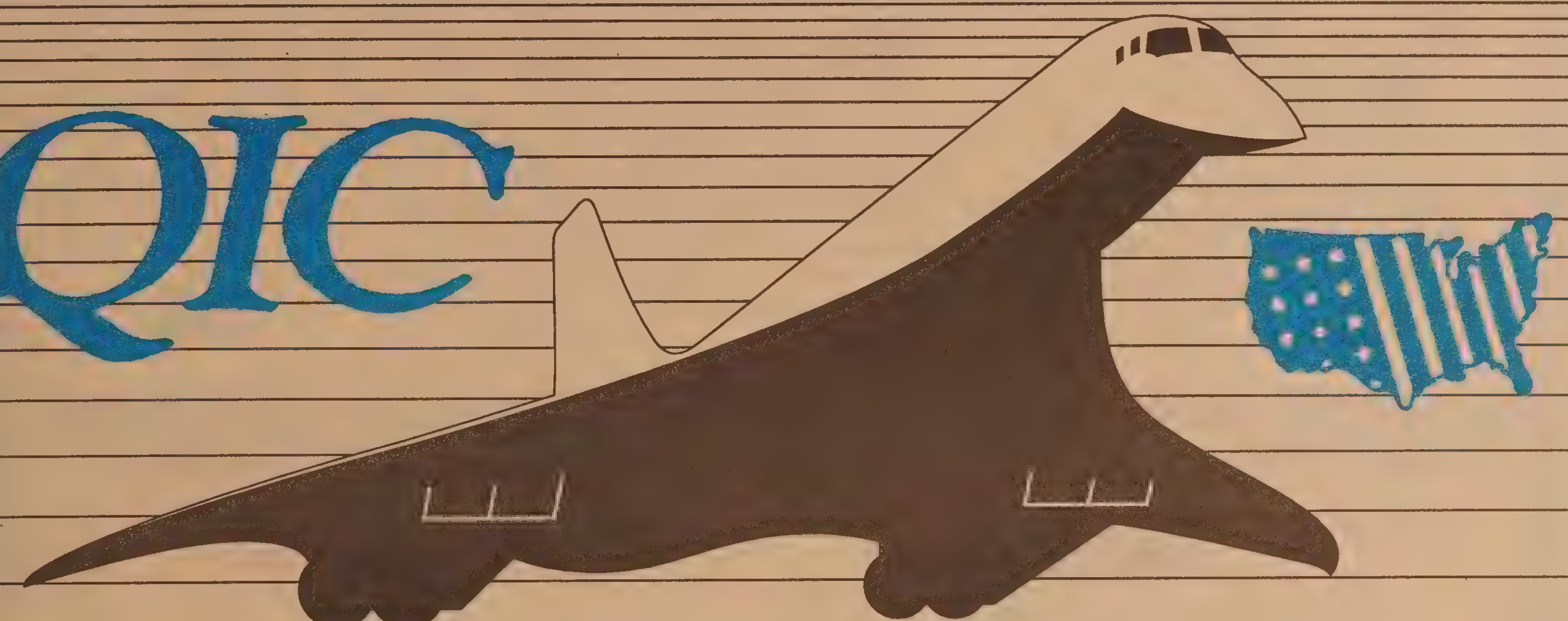
Saturday 10 am

ASFA (Science Fiction Artists)

Sunday 10 am

Your Satisfaction Matters

2 Year Parts 1 Year Labor On All Systems



486DX2-66MHz Intel

- 4MB-70 RAM/256K Cache
- Teac 5.25" & 3.5" Drives
- 120MB Conner IDE 15ms
- Local Bus IDE w/IO
- Diamond Stealth 24VLB w/1MB S3-805 or Orchid Fahrenheit Plus VLB
- Mini Tower Case w/230W Power
- 101 Enhanced Keyboard
- MS DOS 6.0
- Windows 3.1 & Mouse

$1450

486DX2-33/50MHz Intel

- 4MB-70 RAM/128K Cache
- Teac 5.25" & 3.5" Drives
- 120MB Conner IDE 15ms
- IDE w/2S, 1P, 1G
- Orchid Fahrenheit 1280 True-Color w/1MB VRAM
- Mini Tower Case w/230W Power
- 101 Enhanced Keyboard
- MS DOS 6.0
- Windows 3.1 & Mouse

$1125/1250

486SLC2-66MHz IBM

- 4MB-70 RAM/16K Internal Cache
- Teac 5.25" & 3.5" Drives
- 120MB Conner IDE 15ms
- IDE w/2S, 1P, 1G
- Trident 8900 CL SVGA Card 256 Color w/1MB
- Mini Tower Case w/230W Power
- 101 Enhanced Keyboard
- MS DOS 6.0
- Windows 3.1 & Mouse

$995

486DLC-33MHz Cyrix

- 4MB-70 RAM/64 Cache
- Teac 5.25" & 3.5" Drives
- 120MB Conner IDE 15ms
- IDE w/2S, 1P, 1G
- Cirrus 5420 256 Color w/1MB SVGA Card
- Mini Tower Case w/230W Power
- 101 Enhanced Keyboard
- MS DOS 6.0
- Windows 3.1 & Mouse

$895

Upgrade Specialist We Will Upgrade Any System

MONITORS

SPECIAL $185
QTY LIMITED

SVGA 14"	
Orchestra	
14" Bugle .39	$200
14" Cornet .28	239
14" Trumpet .28	269
14" Trombone 1280	289
15" French Horn 1280	405
Standard	
17" VESA NI 1280	760
MAG	
15" 15F 1280 x .28	525
17" 17F 1280 x .28	945
NANAO	
17" F550iw 1280 x 1024	1019
17" F560i 1280 x .26	1650
NEC	
15" 3FGe Flat 1024	650
15" 4FGe Flat 1024 NI	695
17" 5FGe 1024 x 768 NI	1085
21" 6FGe Flat 1280 .28	2395
SAMPO	
17" KDM-1766 .31 1280x NI 74Hz	707
SONY	
17" 1730 1024 x768 .28NI	995
20" 2038 1280x1024 .30NI	2295
VIEWSONIC	
14" 5E 1280x .28NI	365
15" 6E 1024x .28NI	310
15" 15 1024x .28NI	610
17" 17 1280x .28NI	1145

DRIVES

120MB Conner IDE 16ms	$160
127MB Quantum IDE 16ms	180
131MB Maxtor IDE 15ms	185
170MB Conner IDE 15ms	195
170MB Quantum IDE 15ms	200
245MB Maxtor IDE 15ms	240
245MB Maxtor SCSI-2 15ms	275
254MB Conner IDE	240
340MB W.D. IDE 13ms	299
340MB Maxtor SCSI-2	375
520MB Fujitsu SCSI-2 12ms	675
520MB Fujitsu IDE 12ms	675
525MB Quantum SCSI-2 12ms	675
525MB Quantum IDE 12ms	650
1.0GB Toshiba SCSI-2 512K	980
1.2GB Toshiba SCSI-2 512K	1030
2.1GB Fujitsu SCSI-2 5.25"	1825
1.08GB Fujitsu SCSI-2 10ms	1050

TAPE BACKUPS

Colorado DJ-10	$150
Colorado DJ-20	190
Trakker 120	295
Trakker 250	350

MOTHERBOARD W/CPU

486/66 DX2 128/256K VLB	$578/598
486/50 DX 128/256K ISA	478/498
486/33 DX2 256K VLB	398
486/66 DX2 128/256K ISA	548/568
486/33 DX 128/256K ISA	348/368
486/66 SLC2	300
486/33 DLC 64/256K	190/220
386/40 DX 128K Opti	130
386/33 SX	79
486/66 DX2 256K EISA VESA	868
486/33 DX 256K EISA VESA	668

ADD-ONS

IDE 2HD/2FDC	$15
IDE W/2S, 1P, 1G	20
IDE W/4FDC (2.88)	50
IDE W/IO 32 bit VLB	36
IDE W/16550 IO	50
AT/IO 2S, 1P, 1G	15
MGP	15
AT/IO W/2 16550 UR	40
SCSI Always SCSI	189
Desktop Case w/200W	70
Mini Tower Case w/230W	50
Mid Tower Case w/230W	70
Mid Tower w/2 Fan Classic	90
Super Full Tower w/250W	160
2400Modem (Internal)	30
96/96/24 Fax Modem (IN)	50
14.4/14.4 Fax Modem (IN)	145
9600 External Modem	100
14.4/14.4 Fax Modem (EX)	175

CD ROM/SPEAKERS

Mitsumi 005	$180
Sony 31A	189
Panasonic CR562	299
Phillips CM205	249
Toshiba MK3401B	439
Texel DM3024	369
NEC CDR74	575
Sound Galaxy NX Pro 8bit	120
Sound Galaxy NX Pro 16bit	169
Sound Blaster Pro 8bit	125
Sound Blaster Pro 16 ASP	189

UPGRADES

Your 286 to 386/40 128K Cache w/4MB Only $300

WARRANTY & SERVICE

- 2 Year Parts & 1 Year Labor on Systems
- Worldwide On-Site Available
- Every configuration tested by our technical staff for a minimum of three weeks to ensure quality and compatibility
- 1 Year on components purchased without system
- Prices subject to change without notice
- Not responsible for typographical errors

Albany • Berkeley
1533 Solano Ave.

Oakland • San Leandro
1933 Davis St. #262

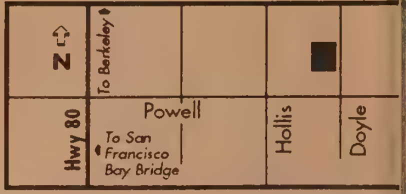
PC TEN
A Super Computer Co.

510/527-1388 FAX 510/527-7006

510/568-1688 FAX 510/568-6888

MICROTECH
International

Serving You Since 1986



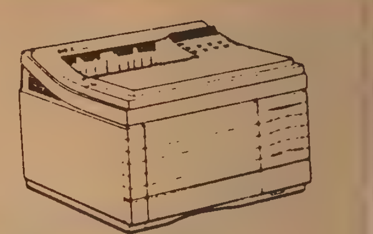
HEWLETT-PACKARD

HP *LaserJet 4*
FOR PC/WINDOWS USERS

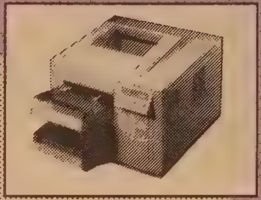
Give your office the advantages of superior looking documents with this printer's stunning 600-dpi resolution and wide assortment of built-in scalable typefaces. It also offers paper handling flexibility that can translate into real productivity gains for your office. Automatic switching between three ACTIVE I/Os makes it easy to share its outstanding print quality among several users.

HP *LaserJet 4M*
FOR MAC/PC Environment

This printer sets a new standard in business printing for Macintosh and mixed Mac/PC environments.
With 600-dpi resolution, it produces near-typeset-quality documents. Integrated PostScript Level 2 software from Adobe gives users access to 35 Type 1 typefaces, and they can download thousands more. Automatic printer language and I/O switching makes it easy to share the printer between Mac and PC users.



HEWLETT PACKARD
Authorized Reseller

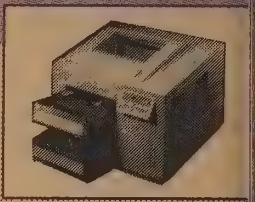


HP LaserJet 4Si

This 17 pages per minute, high-performance, 600dpi network printer offers the power & performance to meet users' expanding needs. Add interfaces, memory, paper-handling at any time.

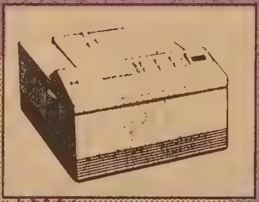
HP Plotters

- **HP DesignJet 600 D/E Size Plotters**
- **HP DraftPro DXL Plotter**
- **HP DraftPro EXL Plotter**
- **HP 7475A Color Desktop Plotter**
- **HP 7550 Plus Color Desktop Plotter**



HP LaserJet 4SiMX

The HP LaserJet 4SiMX is a high-speed, high-volume, high-resolution laser printer designed for multiple network environments. It offers simplicity in complex networking environments.



HP LaserJet Ser IIP

Get true HP LaserJet quality at a great price.

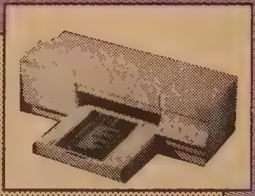
- High-quality 300 dpi text and graphics
- Compact desktop size
- 4ppm

$739

HP LaserJet Ser IIIP

- High-quality 300 dpi text and graphics
- Compact, desktop size
- Prints 4 pages per minute
- Compatible with all major software packages
- Optional 250-sheet paper cassete for dual-bin printing

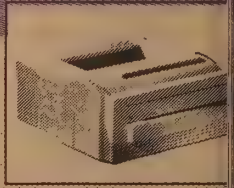
$849



HP PaintJet XL 300

The HP PaintJet XL300 PS Color Postscript Printer offers users the best of both worlds—PCL *and* PostScript printer languages. RISC-based technology and 6MB of printer memory (expandable to 18 MB) accelerate Postscript language processing and help keep your graphics and desktop publishing projects on schedule.

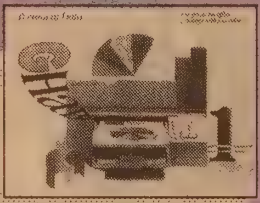
$2099



HP LaserJet 4L

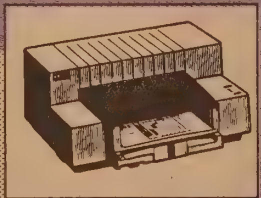
The HP LaserJet 4L printer is everything you want in a laser printer. Complete. Simple to operate. And affordable.

- Up to 4 pages per minute
- 300x300 dpi with further refinement by HP Resolution technology
- 26 Scaleable typefaces



HP DeskJet 1200C/1200C/PS Printer

- 600x300 dpi black text with Resolution Enhancement Technology
- 300dpi full color printing
- 45 internal scalable typefaces for Windows and MS-DOS®, 35 additional typefaces for PostScript™ printing
- Color PCL5 language and a slot for HP LaserJet typeface cartridges
- 2MB Memory, expandable to 26MB

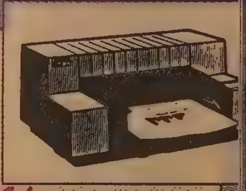


HP InkJet Printers For/PC

DeskJet 500/500C/550C

- 3 Year mfg. warranty
- Extremely quiet operation
- 300 dpi printing
- 7 ppm in best mode 550C

$339/479
CALL



HP InkJet Printers For Macintosh®

Deskwriter/DeskwriterC/Deskwriter 550

- 3 Year mfg. warranty
- Extremely quiet operation
- 300 dpi printing
- 7 ppm in best mode 550C

$339/479
CALL

100% FINANCING AVAILABLE OAC
PLEASE CALL STORE FOR DETAILS

Authorized Factor

HEWLETT PACKARD

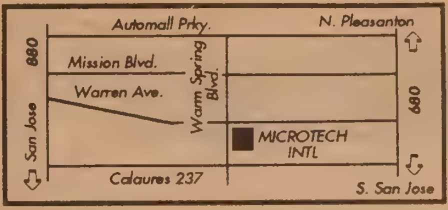
COMPAQ

EMERYVILLE

5865 Doyle Street
Emeryville, CA 94608
TEL: (510) 658-1433
FAX: (510) 658-7339

FREMONT

47000 Warm Springs Blvd. #8
Fremont, CA 94539
TEL: (510) 226-8650
FAX: (510) 226-8652



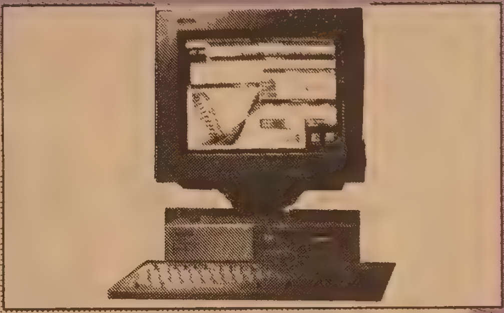
Hours:
Mon - Fri 9-6
Closed Sat & Sun
Closed Fri 1-2
Fremont Store Open
Sat. 11-5 thru Dec.

HP Vectra Family of Computers

Hewlett-Packard offers a whole range of fast, expandable, high-performance personal computers to meet the demands of the most complex business and technical environments, including single-user, multi-user, PC-based CAD and LAN. Above all, they're backed by HP's impeccable reputation for quality and reliability. Now 3 year on-site warranty on all 486 systems.*

HEWLETT PACKARD
Authorized Reseller

* When purchased by June 30, 1993



"Each machine demonstrates HP's workmanship and dependability, while offering cutting-edge performance"
-PC Magazine

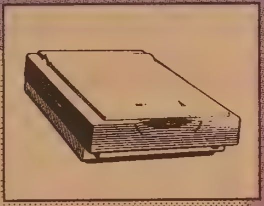
You Were Wise to Wait
The New HP Omnibook 300 Superportable PC

- It's Lightweight - - - Only 3 pounds, including built-in mouse.
- It's Compact - - - Only 6.4 x 11.1 x 1.4 inches.
- From Complicated to Easy - Fast access keys to save time.
- It's Ready to Go. No waiting for the system to boot, ever.
- Built-in ROM Applications - MS Windows, MS Word for Windows, MS Excel, Appointment Book, Phone Book, HP Calculator, MS File Manager and LapLink Remote Access - Don't use up disk space.
- Mass Storage Options Available - 40MB Hard Disk or 10MB Flash Disk Version
- Optional Plug-in Fax/Modem and Data Communications Application Card.
- *Call Microtech International to find out more about the Superportable from HP*

We carry the complete line of HP Printer Supplies, Accessories, and Software Utilities.

- Postscript cartridges
- Toner cartridges
- InkJet cartridges
- Network Boards/Cables
- HP Printer Font Cartridges

HP ScanJet Scanners



IIP

- Flatbed, monochrome
- 300 dpi resolution
- 256 grayscale levels

IIC

- Monochrome + color images + text
- Recognizes any font
- Manages long documents w/ease

HP 100LX Palmtop PC

- The only palmtop with built-in cc:Mail and other datacomm.
- The only palmtop that runs DOS-based software off-the-shelf.
- The best PIM Software in a handheld.
- The only palmtop to implement PCMCIA version 2.0.
- It includes a built-in database.

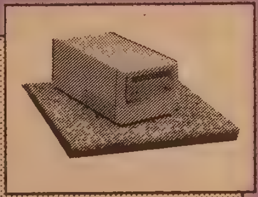
Call Us For Memory Upgrades On All HP Computers & Printers

HP Computer/Printer Repair

- On-site/in-house repairs
- Loaners available while we service your equipment*
- Extended service contracts
- HP authorized technicians
- On-site preventative maintenance. Call for appointment.

* Call Store for Details

HP DAT PC Backup Solution



The HP DAT PC Backup Solution is the quick and easy answer to saving your computer data.

The high performance HP DAT PC Backup Solution uses a 2.0 gigabyte DAT drive, can save 300 megabytes of data in under 30 minutes, and can restore the data at the same speed

Authorized HP

HEWLETT PACKARD

On-Site Warranty and Non-warranty Service/Repairs

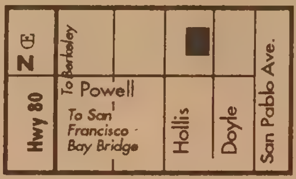
Service Center for:

TOSHIBA OKIDATA Apple

PRICES REFLECT A CASH DISCOUNT

All prices are subject to change without notice.
Prices good through 9/20/93.
All brands and product names are trademarks of their respective companies.

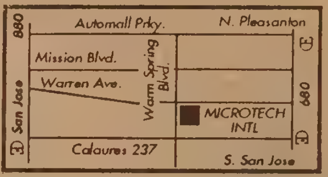
MICROTECH
International



Serving You Since 1986

EMERYVILLE
5865 Doyle Street
Emeryville, CA 94608
TEL: (510) 658-1433
FAX: (510) 658-7339

FREMONT
47000 Warm Springs Blvd. #8
Fremont, CA 94539
TEL: (510) 226-8650
FAX: (510) 226-8652



Centrally Located–15 min from San Francisco
5 min from Oakland–5 min from Berkeley

Hours: Mon-Fri 9-6, Closed Sat & Sun, Closed Fri 1-2
Fremont Store Open Sat. 12-4 by appt.

SUPER SAVINGS FROM APPLE®

Now through Sept. 30th, 1993, you may receive a rebate on-the-spot when you purchase selective Apple® printers, monitors, CPU's or even a total selective hardware solution. Please call for more details.

On-the-spot **rebates.**
On-target **solutions.**

Authorized Dealer

Apple® Macintosh Centris™ 660AV

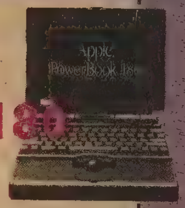
8/230 8/500

- 68040-25MHz, with 68882 math coprocessor
- 8MB RAM exp. to 68MB
- Two video-input ports, two video output ports.
- 16-bit stereo sound-input/out ports
- Advanced video-input capabilities help you communicate more effectively than ever before

Apple® Macintosh Quadra™ 840AV

- 68040-40MHz, with 6882 math coprocessor
- 8MB RAM exp. to 128MB
- 4 NuBus™ expansion slots
- Two video-input ports, two video output ports.
- 16-bit stereo sound-input/out ports

Apple® Macintosh PowerBook™ 180 4/120



- Gray Scale Active Matrix Display
- Color Video Output
- High Performance & incredible speed
- Includes floppy drive

$3299

486DX2-66MHz VESA Local Bus 128K Cache

- 340MB IDE Hard Drive
- 1.2 & 1.44 Floppy Drive
- SVGA Card
- Parallel Serial Ports
- 101 Keyboard
- Mid-Size Tower w/ 250W
- DOS 5.0
- Windows 3.1
- Mouse

SPECIAL PRICE $1389
200 MB SYSTEM $1289

486DX-50MHz VESA Local Bus 128K Cache

- 340MB IDE Hard Drive
- 1.2 & 1.44 Floppy Drive
- SVGA Card
- Parallel Serial Ports
- 101 Keyboard
- Mid-Size Tower w/250W
- DOS 5.0
- Windows 3.1
- Mouse

SPECIAL PRICE $1289
220 MB SYSTEM $1179

486DLC-33

- 120MB Hard Drive
- 1.44 Floppy Drive
- DOS 6.0 & Windows 3.1
- Desktop Case
- 101 Keyboard
- Full 1 Year Warranty

$715

AVANTI NOTEBOOKS

486SLC-25

- 4MB RAM/120 MB Hard Drive
- 96/24 BPS Fax/Modem
- DOS 5.0

$1550

386SXL-25

- 4MB RAM/80 MB Hard Drive
- 96/24 BPS
- Fax Modem

$1199

486-25 Color Notebook

- 4MB RAM/120 Hard Drive
- 96/24 BPS Fax/Modem
- DOS 6.0 & Windows 3.1

TEXAS INSTRUMENTS

TM4000 WIN DX 2/50

- 4MB/200MB Hard Drive

$2987

TM4000 WIN DX 2/40 Color

- 4MB/200MB Hard Drive

$3599

TM4000 WIN DX 25

- 4MB/200MB Hard Drive

$2987

COMPAQ

Proline ..... ALL Models ..... Lites .... ALL Models
Contura ... Great Prices ...... Pro Signia .. Great Prices

T4600C DX/25 Color

- 4MB/200MB Hard Drive

$3899

T1900/T1900C

- 4MB/120MB Hard Drive

$3449

IBM 720/720C

- IBM 486SLC2 Processor
- 4MB RAM, expandable to 16MB
- 9.5" Mono/10.4" Color Display
- External VGA Display
- 84 Key KB/Trackpoint II
- 1 Year International Carry-in Warranty

CALL for other models from IBM

100% FINANCING AVAILABLE OAC
PLEASE CALL STORE FOR DETAILS

Authorized Factory Service/Repair Center for:

HEWLETT PACKARD
COMPAQ
TOSHIBA
OKIDATA
Apple

All prices are subject to change without notice.
Not responsible for typographical errors.
All brand and product names are trademarks of their respective companies.

Text: The Ultimate VR Tool?

An Electronic Interview With Snow Crash *Author Neal Stephenson*

BY MARY EISENHART

Snow Crash, one of the year's biggest science fiction bestsellers, postulates a physical world populated with characters jacked into a virtual world called the Metaverse. Intelligent software agents, Mafia dons, Sumerian deities, communications tycoons, thrash musicians, skateboard messengers, and fearless programmers clash and collaborate in a bizarre but all-too-plausible universe of technoalienation. Along the way, the reader is invited to contemplate computer viruses, media-based mind control, privacy protection, Technology As Force For Good/Evil, and other timely and scary issues.

Author and programmer Neal Stephenson originally envisioned *Snow Crash* as a digital adventure before hitting a few technological walls and going the book route instead. In the book's Afterword he touches on the project's evolution from vision to text, and hints at the cross-fertilization of the computer and science fiction communities. The Internet, appropriately enough, furnished a medium for asking him to elaborate on these themes.

You suggested in the book's Afterword that *Snow Crash* was initially envisioned as an Interactive Multimedia Experience, or at least an Interactive Graphics Experience. Why did this turn out to be unfeasible?

The plan was to use a Mac to generate the graphics for a graphic novel, with possible extension to interactive media later on. The hard part about doing a graphic novel is getting the faces right (that's why comic book superheroes wear masks). My partner Tony Sheeder, a Washington, D.C., painter, and I rigged up a system where we'd videotape actors acting out scenes, use a frame grabber to digitize individual frames, then incorporate them into the graphics using commercial color paint software and some proprietary image processing software that I wrote.

The Mac II, which was state of the art at that time, wasn't fast enough to do image processing, so I installed a Transputer card and wrote the image processing back end in occam 2 and the user interface front end in Object Pascal, later C++, under MacApp. Later, as we got interested in other media besides paper, I extended the system to do frame-by-frame image processing, interfacing it to a 3/4" VTR through a black box called a BCD-5000.

In the end all of this stuff actually worked, and we put together some two-page spreads which we schlepped around New York trying to interest various publishers. The problems were that:

(1) Our garage-grade videotape wasn't good enough to get decent image quality and we realized we'd have to shoot real video, complete with hair, makeup, costumes, lighting, and rented cameras. The budget skyrocketed.

(2) All the publishers who looked at this stuff thought it looked very nice, but after that their eyes glazed over *real* fast. It was just a little too out-of-left-field at that time. This was long before digital media had become a buzzword.

You've said in the acknowledgements for *Snow Crash* that in constructing the Metaverse, you were influenced by the Apple Human Interface Guidelines. Can you elaborate on that a bit?

The whole Metaverse thing germinated in idle discussion between me and a friend of mine named Jaime Taaffe, when we were speculating on how the Mac desktop metaphor might be extended into three dimensions. For starters we were just talking about replacing the desktop with a full-fledged virtual office, which is an idea that many people have come up with independently. After that I started extending the idea, trying to imagine how a commercially viable virtual reality might be designed.

The basic idea behind the AHIG is that you shouldn't mix your metaphors, which is also an important principle in literary style. So in the Metaverse, you can't teleport from place to place—the virtual space behaves as much as possible like a real space. Some techies don't like this, but the Metaverse isn't made for techies—it's a deliberately commercialized version, designed for mass consumption, and the masses are more comfortable with a virtual space that behaves like the universe they're familiar with.

You're both a programmer and an author—did you get into both at the same time and did the two activities evolve more or less in parallel?

I didn't do any serious fiction writing until I was about 20 years old. I started programming when I was 14. My school had a teletype with an old rubber-cup modem that enabled us to hook up with the mainframe at a local university. I'd punch BASIC programs on paper tape, feed them in, and run them. When I was in college I coded in FORTRAN and PL/1, sometimes as part of academic assignments and sometimes just for the hell of it. When the Mac came out in '84, I bought the original 128K model and started programming it in Pascal as soon as a compiler became available. As the Mac got bigger and faster I got better hardware and worked up to MPW Pascal, then Object Pascal with MacApp, then C++. At the moment I'd rather use Lisp than anything else.

The relationship between writing fiction and coding has mostly been pretty tenuous. I either do one or the other, rarely both at the same time. When I've been heavily involved with a writing project, it helps clear my head to dive into some coding, and vice versa. *Snow Crash* was an effort to merge both interests.

continued on page 231

Preview:

October
14-16, 1993
Palo Alto,
California

Third Foresight Conference On Molecular Nanotechnology:

Computer-Aided Design Of Molecular Systems

Sponsor: Foresight Institute

Cosponsors: *Stanford University Department of Materials Science and Engineering, Molecular Graphics Society (USA), Institute for Molecular Manufacturing*

A high proportion of those interested in nanotechnology are computer professionals, and for years they have asked with increasing vigor, "What can I do to further nanotechnology?" This conference is especially designed to enable members of the computer community—programmers, software engineers, hardware designers, and computer scientists in general—to move their knowledge base and, ideally, their careers toward nanotechnology. All those with a computer background are urged to attend.

The Third Foresight Conference on Molecular Nanotechnology: Computer-Aided Design of Molecular Systems will be held in Palo Alto on October 14–16, 1993. The meeting includes speakers who have made or are making the transition from computer science to nanotechnology.

According to conference cochair Ralph Merkle, "The main emphasis of this conference will be on computational approaches to the development of molecular manufacturing, in particular the use of molecular modeling and the development of molecular computer-aided design (CAD) tools. The conference will be valuable both for people who work professionally in computational chemistry and also for people who have a background in computer science and are interested in finding out what they can do to contribute to the development of molecular manufacturing.

"There will also be a tutorial the day before the conference, so that people who have a background in computer science and wish to come up to speed in computational chemistry can get an introduction to the methodologies and techniques that are commonly used."

The conference will feature many presentations on topics relevant to the pursuit of molecular control. Among them:

•**Joel Orr, Autodesk Fellow, past president of the National Computer Graphics Association, and president of the Virtual Worlds Society**, will address CAD industry professionals, potential nanotech designers, and others interested in hearing about the special needs of nanotechnology with respect to CAD. In the macro and micro worlds, computer-aided design is optional: design can be done by hand. But in the nano world, CAD is essential. He will discuss:

- *Is standard CAD good enough for nanotech?*
- *What are the characteristics of the ideal system?*
- *Who is working on such systems?*
- *When will results be available?*
- *Nano a mano: What can be done by hand, without CAD?*

• **Russell Taylor, a researcher at the University of North Carolina at Chapel Hill**, will be speaking on Virtual Reality for Nanotechnology, a subject of particular interest to two groups of people: surface scientists who are interested in better interfaces to their instruments, and builders of virtual worlds, since the system is an example of a virtual world applied to a scientific problem.

The system under discussion, the Nanomanipulator, is an immersive virtual-environment interface to a Scanning Tunneling Microscope (STM). A head-mounted display presents a scaled image of the surface being scanned by the STM in front of the user while a force-feedback Argone-III Remote Manipulator (ARM) allows the user to feel contours on the surface. Computer-controlled instrumentation allows the user to make bias pulses at specified locations, thus modifying the surface.

•**Ted Kaehler, a computer scientist at Apple Computer**, points out that we do not know how the first assembler will be built or what exact research is needed to get there. A person who is not a professional chemist or materials scientist, and yet wants to be involved in this effort, has to think about how his/her skills match the problem. In this talk, entitled "What Can a Programmer Do to Help Create Nanotechnology?," he discusses three efforts he has been involved in.

•The first is a program to discover voids inside large molecules. Programs that search for the proper design of a large molecule need to know where the empty spaces are.

•The second is a project to build the "relaxation server" on the Internet. This server accepts proposed molecules (via email messages) and computes the coordinates of the atoms. The results are sent back by email.

•The third project is a "program" of a different sort—a meeting group. The "Assembler Multitude," a subgroup of the local Computer Professionals for Social Responsibility chapter—meets every other Monday night in Palo Alto and covers a wide variety of nanotechnology-related topics.

•**Charles Musgrave, a doctoral candidate at the California Institute of Technology**, will talk about *ab initio* calculations for mechanosynthetic construction of diamondoid structures. Accurate transition state barriers for a positionally controlled reaction are necessary to both the design of the tool and the design of the synthetic process. If either of these designs is not practical, then an alternative structure is required. High-level *ab initio* calculations are required to obtain accurate transition state structures and thus reliable mechanochemical modeling.

•**J. Storrs Hall, Rutgers University**, will be speaking on nanocomputing, particularly the expected developments in computer architecture that make use of reversibility to reduce heat dissipation. The techniques will be critical for nanocomputers, but are on the verge of becoming useful in VLSI, so the talk will be of interest to anyone in computer architecture as well as those studying molecular computers per se.

•**Markus Krummenacker, an Institute for Molecular Manufacturing researcher**, will be presenting a "cavity stuffer" program which should enable the design of macromolecules the size of proteins. These macromolecules should then be easily synthesizable and should also have specifiable interface surfaces so that they can self-assemble.

Additional talks include:

- *Introduction to the Design of Molecular Systems*, by Eric Drexler, IMM
- *Computational Nanotechnology*, by Ralph Merkle, Xerox PARC
- *Design of Macromolecular Objects*, by Manfred Mutter, Institut de Chimie Organique
- *Molecular Modeling*, by William Goddard, Caltech
- *Crystal-Based Molecular CAD*, by Geoff Leach, Royal Melbourne Institute of Technology
- *Visualization With Molecular Graphics*, by Michael Pique, Scripps Research Institute
- *Modeling Diamond CVD With Density Functional Theory*, by Warren Pickett, NRL
- *Ab Initio Methods and Software*, by Charles Bauschlicher, NASA Ames
- *Atom Manipulation by Proximal Probes: Experiment and Theory*, by Makoto Sawamura, Aono Atomcraft Project

Leading vendors will demonstrate products useful in the pursuit of molecular control, including molecular modeling software and hardware, and proximal probe systems (e.g. STM).

A full-day tutorial on molecular modeling and computational chemistry will be held on October 13. This tutorial is designed for computer scientists and programmers interested in using their computer skills to become active in the field of nanotechnology. The workshop will be taught by Bill Goddard, Ralph Merkle, Eric Drexler, and others. More detailed information, including registration materials, will be sent to all conference registrants.

For further information, contact:
Foresight Institute
Box 61058, Palo Alto, CA 94306 USA
(415)324-2490, Fax (415)324-2497
Internet: *foresight@cup.portal.com*

PC WAREHOUSE

80 Locations Nationwide

You'll come for the price
You'll stay for the service

NOVELL
Networks

Service
Consulting
Installation

Special
HP OMNIBOOK 300-40
Great Low Price
$1795

SERVICE SOLUTIONS

- ◆System Upgrade
- ◆System Configuration
- ◆Computer Rental
- ◆Set Up & Installation
- ◆Monitor Repair
- ◆Computer Repair
- ◆Disk Repair

Multimedia Sources

CD ROM

Item	Price
Sony 31A Int (490ms, 150KB)	$209
Mitsumi 005s Int (350ms, 150KB)	$189
NEC 74 Ext (280ms, 300KB)	$529
NEC 84 Int (280ms, 300KB)	$439
Texel 3024 Int (265ms, 300KB)	$369
Texel 5024 Ext (265ms, 300KB)	$449
Toshiba 3401B Int (200ms, 330KB)	$439
Toshiba 3401E Ext (200ms, 330KB)	$559

SOUND CARD

Item	Price
Sound Blaster 16ASP	$219
Sound Blaster Pro Deluxe	$139
Media Vision Pro Audio Spectrum 16	$159

Toshiba Notebook

Item	Price
T1900 (486SXA-20, 120MB HDD)	$1899
T1900C (486SXA-20, 120/200MB HDD)	$2599/2879
T4500 (486SX-20, 120/200MB HDD)	$2229/2559
T4500C (486SX-20, 120/200MB HDD)	$3159/3439
T4600 (486SL-33, 120/200MB HDD)	$3059/3339
T4600C (486SL-33, 200/340MB HDD)	$4349/4629

Kenitec Notebook

Item	Price
486SLC-25 (80/120/200MB HDD)	$1249/1289/1439
486SLC-33 (80/120/200MB HDD)	$1299/1339/1489

☞ *Price for aboves based on 4 MB memory*

IBM / HP / EPSON /ARCHE

Notebooks*....$$CALL FOR BEST PRICES$$*

LaserJet 4L

HEWLETT PACKARD

- *300dpi & 4 pages per minute*
- *PCL 5 & 26 scalable fonts*
- *100 sheets adjustable tray*
- *Memory enhancement technology*

$669

Item	Price
DeskJet 500	$319
DeskJet 500C	$419
DeskJet 550C	$629
DeskJet 1200C	$1379
LaserJet IIIp	$839
LaserJet 4	$1349
LaserJet 4M	$1859
LaserJet 4ML	$1045
LaserJet 4si	$2985
ScanJet IIP	$755
ScanJet IIC	$1345
PaintJet	$695
PaintJetXL	$1645
PaintJetXL300	$2165

EPSON

Item	Price
AP-2250, 9-pin, narrow	$119
AP-3250, 24-pin, narrow	$189
LX-810, 9-pin, narrow	$169
FX-1050,9-pin,wide	$359
FX-870, 24-pin, narrow	$279
FX1170,24-pin, wide	$359
LQ-570, 24-pin, narrow	$239
LQ-870, 24-pin, narrow	$469
LQ-1070, 24-pin, wide	$359
LQ-1170, 24-pin, wide	$599
AP-1000, 300dpi, 6ppm	$629
EPL-8000, 300dpi, 10ppm	$889

Panasonic

Office Automation OA

Item	Price
KX-P1123	$185
KX-P1124i	$269
KX-P2023	$189
KX-P2123	$235
KX-P2124	$315
KX-P2180	$165
KX-P1624	$345
KX-P2624	$369
KX-P4410	$569
KX-P4430	$669
KX-P4450i	$999
KX-P4455	$1665
KX-PCK11	$45
KX-PT12	$50
KX-P37	$95

386SX-33	386DX-33/40	486SX - 25	486DX - 33	486DX - 50	486DX2-66
*386SX- 33 CPU *1-16MB RAM (70ns) *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard	*386DX-33/40 CPU *1-32MB RAM (70ns) *128K CACHE *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard	*Intel 486SX-25 CPU *1-128MB RAM (70ns) *128K CACHE *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard	*Intel 486DX-33CPU *1-128MB RAM (70ns) *256K CACHE *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard	*Intel 486DX-50 CPU *1-128MB RAM (70ns) *256K CACHE *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard	*Intel 486DX2-66 CPU *1-128MB RAM (70ns) *256K CACHE *AMI BIOS *Teac 1.2 or 1.44 FDD *IDE FD/HD CTL *2S\1P\1G ports *101-key keyboard
$299	**$369/$379**	**$479**	**$629 ISA** **$659 VESA** **$759 EISA/VESA**	**$769 ISA** **$799 VESA** **$899 EISA/VESA**	**$849 ISA** **$879 VESA** **$979 EISA/VESA**

1 Year Parts/ 2 years Labor Warranty

High Quality, Full Compatibility And Reliability Are Guaranteed!

8/12/93

Monitors

Item	Price
SONY 1430s	$599
SONY 1604s	$949
SONY 1730	$999
SONY 2036s	$1995
NEC 3FGe	$579
NEC 4FGe	$709
NEC 5FGe	$1099
NEC 6FG	$2399
Viewsonic 6E	$349
Viewsonic 15	$549
Viewsonic 17	$1129
Viewsonic 20	$1829
Arch .28 SVGA	$269
Arche N-I SVGA	$299
14" Amber	$119
14" Paper white VGA	$129
Nanao F 550i	$1079
Nanao T560i	$1695
Nanao T660i	$2595

Video Adapters

Item	Price
OAK 800X600 VGA	$39
Trident 1024 W/1MB	$65
Tseng Labs 1024 1MB	$85
Genoa VLB 1MB	$115
Cirrus Logic VLB 1MB	$95
ATI GraphicUltra Pro 2MB/VLB	$359
Orchid Fahrenheit 24X 1MB	$149
Orchid Fahrenheit VLB 1MB	$159
Orchid P9000 VLB 3MB	$359
Diamond Viper VLB VRAM 2MB	$3999
Diamond Stealth 24 VLB 1MB	$179
Stealth Pro VRAM 1MB/2MB	$269/$369

Hard Drives

Item	Price
Conner 80MB IDE	$159
Conner 120MB IDE	$169
Conner 170MB IDE	$189
Conner 254MB IDE	$249
Maxtor 130MB IDE	$189
Maxtor 213MB IDE	$229
Maxtor 245MB IDE	$249
Maxtor 345MB IDE	$329
Maxtor 345MB SCSI	$399
Maxtor 540MB IDE	$809
Maxtor 540MB SCSI	$859
Fujitsu 1.2GB SCSI	$1039
Toshiba 1.2GB SCSI	$1039

Modems

Item	Price
Zoltrix 24/96i FaxModem	$59
Zoltrix 144 int FaxModem	$169
Intel Satisfaxtion 200	$299
Intel Satisfaxtion 300	$319
Intel Satisfaxtion 400	$399
US Robotics	$Call

Controllers

Item	Price
Adaptec 1522k scsi	$159
Adaptec 1542ck scsi	$249
Promise IDE VLB	$169
DTC 3280 scsi w/kit	$119
FD TMC 1660 w/kit	$219
Ultrastor34f scsi VLB	$289

Misc

Item	Price
SummaSketchIII 12x12	$299
Logitech Scanman 32	$129
Accessories	$Call
Softwares	$Call
Tape Backup	$Call
Memory	$Call

Sunnyvale

1082 E. El Camino #3
(Btw Lawrence & Henderson)
(408) 985-1309

MON-FRI 9AM-6PM
SAT 10AM-5PM

Financing Available
Corporate Inquiry Welcome

MasterCard
VISA

Prices & Specs
Subject to Changes
w/o Notice

Advertised Prices
Based On 2% Cash
Purchased Discount

Palo Alto

454A California Avenue
(Btw El Camino & Alma)
(415) 321-9288

• BEST MEMORY PRICES • HIGHER QUALITY
• SAME DAY SHIPPING • FREE REPLACEMENT WARRANTY

Item	Price
1x9-10 3 Chip/9 Chip	$^{\$}$CALL
1x9-80 3/9 Chip	CALL
1x9-70 3/9 Chip	CALL
1x9-60 3/9 Chip	CALL
1x8-80 8 Chip	CALL
1x8-70	CALL
1x8-60	CALL
4x9-60	CALL
4x9-70	CALL
4x9-80	CALL
4x8-70 8 Chip	CALL
4x8-80 8 Chip	CALL
256x9-80	CALL
256x9-70	CALL

DRAM'S

Item	Price
1x1-80	$^{\$}$CALL
1x1-70	CALL
1x1-60	CALL
256x4-80	CALL
256x4-70	CALL
256x4-60	CALL
256x1-15-12-10	CALL
256-70	CALL
4464-80	CALL
4464-10	CALL

CPU CHIPS

Item	Price
80386DX-16/20/25/33	$^{\$}$29/39/49/69
80486DX2-50/66	389/489
80486DX-25/33	255/279
80486SX33/25	179/99
80386DX40	69
386DX40 w/Socket	57
80286-8/10 (PLCC)	8/10
80286-12/16 (PLCC)	6/10
V-30-10 V-30/20-10	CALL

SPECIAL MATH CO-PROC

Item	Price
INTEL 80387DX-20	$30

MATH CO-PROCESSOR

Item	Price
INTEL	
8087-5 MHz	$^{\$}$19
8087-2 8 MHz	59
8087-1 10 MHz	79
80287-6 6 MHz	20
80287-8 8 MHz	29
80287XL 12 MHz (Laptop)	69
80287-10 10 MHz	35
80C287-12 MHz	35
80387SX-16,20,25	79
80387DX-16,20,25,33	79
80387DX-20 (Tube)	30
WEITEK	
3167-20 20 MHz (Tube)	$^{\$}$29
3167-25 25 MHz	99
3167-33 33 MHz	250
4167-25 MHz	325
4167-33 MHz	550
CYRIX	
83D87-40 40 MHz	$^{\$}$79
83D87-20 20 MHz	69
83D87-25 25 MHz	69
83D87-33 33 MHz	69
83SX87-16 16 MHz	39
83SX87-20 MHz	69
IIT	
8C87-8	$^{\$}$39
80C287-10	39
80C287-12	49
80C387SX-33	69
8C387-20	59
8C387-25	59
8C387-33	69
8C387DX-40	69
ULSI	
US 83C87 16/20 MHz SX	$^{\$}$59
US 83C87 20/25 MHz SX	59
US 83C87 25/33 MHz	59
US 83C87 40 MHz	59

EPROMS

Item	Price
2764-200ns	$^{\$}2^{75}$
27C64-200ns	3^{50}
27128-200ns	3^{00}
27128-150ns	5^{00}
27256-200ns	3^{50}
27C256-200ns	3^{75}
27C512-200ns	6^{00}
27C020-150ns	13^{00}

Item	Price
514402-80 (1x4) STT,ZIPP	$^{\$}$17
514400-80 (1x4) ZIPP	17
514400-80 (1x4) DIPP	18
514400-80 (1x4) SOJ	CALL
514100-80 (4x1) SOJ	CALL

COMPAQ MEMORY

Item	Price
DeskPro 386/20e, 20, 35e, 25 286e	
1 MB Module	$^{\$}$175
4 MB Module	165
DeskPro 386/20e, 25e	
1-9 MB Exp Brd	140
4-12 MB Exp Brd	269
DeskPro 386s-16	
1 MB Module	89
4 MB Module	179
1-9 MB Exp Brd	159
4-12 MB Exp Brd	240
DeskPro 286N, 386N, 386SX/20	
2 MB Module	75
4 MB Module	175
DeskPro 386N, 386SX/20	
2 MB Module	118
DeskPro 286N, 386N	
0-4 MB Exp Board	175
DeskPro 386/33SL, 486/25, 486/33L System Pro	
2 MB Module	139
8 MB Module	239
32 MB Module	1700
DeskPro 386/16	
1 MB Kit	89
1 MB Exp Brd	229
2 MB Exp Brd	329
4 MB Kit.	CALL
4 MB Exp Brd	425
8 MB Exp Brd	725
Portable 386	
1 MB Kit.	189
4 MB Exp Brd	319
4 MB Exp Brd	322
Portable LTE (8086)	
512K Module	CALL
Portable LTE/286	
1 MB Module	89
2 MB Module	149
4 MB Module	425
Portable SLT/286	
1 MB Module	169
4 MB Module	349
Portable SLT/386	
1 MB Module	169
2 MB Module	189
4 MB Module	310
Portable III	
512K Kit.	55
2 MB Kit.	139

IBM PS/2 MEMORY

Item	Price
Mdl 30/386, Exp Brd	
512K Kit	$^{\$}$54
2 MB Kit	89
Mdl 70-061; -121; 55SX; 65SX: Exp Brd	
1 MB Module	69
Mdls 70-061: E61: 121: 50Z, 55LS, 55SX: 65SX: P70:	
2 MB Module	85
Mdls 70-A21: A61, B21, B61	
2 MB Module	99
Mdls 55SX: 65SX: 55LS, 65LS	
4 MB Module	159
Mdls 80-111; 121, 311, 321	
2 MB Card	99
Mdls 80-A21; A31	
4 MB Card	215
Mdls 80-A21: A31	
4 MB Card	215
Mdls 90; 95	
2 MB Module	159
4 MB Module	259
Mdls 50 & 60	
2-8 MB Exp Brd.	275
Mdls 70 & 80	
2-8 MB Exp Brd	325
2-14 MB Exp Brd	450
4-16 MB Exp Brd	475
Adapter	
2 MB Module	CALL
PS/1 Home System	
512K Upgrade	CALL
2 MB Upgrade	CALL

TOSHIBA PORTABLE MEMORY

Model	Card	Price
T1200XE	2 MB Card	$^{\$}$89
T1600	2 MB Card	99
T3100SX	2 MB Card	85
	4 MB Card	169
T3100e	512K Card	CALL
	2 MB Card	85
T3200SX	2 MB Card	89
	4 MB Card	CALL
T3200	3 MB Card	175
T1000SE; XE	1 MB Card	89
T5100	2 MB Card	99
T5200: 8500	2 MB Card	99

STATIC ZIPPS

Item	Price
1x4 70ns DIPP	$17.00
256x4 10/80/70	$9.00
Video Zipps	

CACHE MEMORY

Item	Price	Item	Price
32x8-25	$4.25	8x8-20	$2.75
32x8-20	5.25	8x8-25	2.25
32x8-15	6.00	8x8-15	3.99
32x8-12	CALL	16x4-25	2.25
64x4-25	6.00	16x4-20	2.75
64x4-20	7.00	16x4-15	2.25
64x4-15	10.00	128x8-25	32.50
64x1-20	6.75	128x8-20	CALL
64x1-15	6.75	128x8-15	CALL

72 Pin SIMMS

Item	Price
2 MB 604-80ns	$69
4MB 1x36-80ns	139
8MB 2x36-80ns	269
16MB 4x36-70ns	560

COMPAQ MEMORY

Model	P/N	Price
LTE 286		
2 MB	117081-002	$115
4 MB	117081-003	175
SLT 286		
4 MB	110237-001	299
LTE 386S/20		
2 MB	12125-001	119
4 MB	121125-002	195
Contura Lite 20/25		
2 MB	129769-001	105
4 MB	129769-002	155
8 MB	129769-003	295
Portable 386		
1 MB	107651-001	109
4 MB	107653-001	299
Portable III		
2 MB	10-7332-001	79
EBD	167811-001	199
SLT 386		
2 MB	118304-001	119
4 MB	118305-001	185
Deskpro 386S (E. Board)		
4 MB	11364-001	239
4 MB	112534-001	169
Deskpro 386/33L, 486/33L, 50/25		
2 MB	115144-001	99
8 MB	116561-001	335
32 MB	116568-001	1275
6 Socket E Board		CALL
Deskpro 386/20e, 25e (E. Board)		
4 MB	113645-001	99
8 MB	116561-001	335
32 MB	116568-001	1275
Deskpro 386/20e, 25e (E. Board)		
4 MB	113645-001	239
Deskpro 386/20,20e,25e		
4 MB	113132-001	169
Deskpro 286N, 386N, 386SX/20, 386/25M, 486/33M, 486S/25M, 486S/16M		
2 MB	118689-001	95
4 MB	118690-001	145
8 MB	128877-001	294
Deskpro 486/33L, 486/50L, 386/33L		CALL
Prolinea 3/255 & 3/252S		
2 MB	141738-001	105
8 MB	141742-001	375
Prolinea 4/33		
2 MB	141682-001	95
4 MB	141684-001	159
8 MB	141685-001	299
Other Models		CALL

IBM PS/2 & PS/1 MEMORY

Model	Memory	Price
PS/1 286/386SX	2/4 MB	$95/149
PS/1 Consultant Essential/Expert	1/2/4/8 MB	45/79/155/299
386 Valuepoint	2/4/8 MB	89/159/305
486 Valuepoint	4/16 MB	169/595
PS/2 30-286	2 MB	89
50Z, 55SX, 65SX, 70	2/4 MB	79/145
40SX, 35SX,35SL	2/4 MB	79/149
70A21, A61, 121	2 MB	109
80-11, 121, 311-	4 MB	210
95,90,P75, PS/1 Pro	2/4/8 MB	110/149/305
16 Bit Exp Bd For 50, 50Z, 60, 65SX	0K	144
32 Bit Exp Board for all 70 & 80 models	0K	164
RISC 6000	16/32/64 MB	745/1490/2890

LASER PRINTER MEMORY
Price includes Memory, Board & Installation Instructions

Item	Price
IBM LASER	
4019/4019E 1/2/3.5 MB	$89/119/169
4029 (All Model) 4 MB	139
EPSON LASER	
6000-2/4MB	$114/175
7000-2/3 MB	125/159
Action LaserII -2/3/4/5 MB	108/139/169/199
HP LASER	
HPII/IID 2/4 MB Board	$105/169
HP 4/4M 4/8MB	149/289
HP IIP,IIP+,III,IIID, IIIP 1/2/3/4	60/95/134/159
IIsi 4/8 MB	138/264
LaserJet Fax 1 MB	82
DeskJet 500/500c 550C 256K	52
Design Jet Plotter 4 MB	144
PANASONIC LASER	
KXP4410/KXP4430 1/2/3/4 MB	$89/115/149/184
KXP4420/4450/4451 1/2/3/4 MB	79/108/139/169
KXP4450 1 MB	111
KXP4455 2 MB	129
OKI LASER	
OL400 1/2 MB Board	$84/106
OL800/820 2/4 MB Board	107/165
OL810 2/3/4 MB Board	145/179/219
QMS LASER	
PS 410 2/3/4 MB	$119/165/189
PS 860, 1700 1/4/8 MB	53/133/166
PS 815, 825, 815MR, 2/4/6	168/232/295
SHARP LASER	
9500PS 1 MB	$55
JX-9500/9700 1/1.5/2.5/4	105/135/188/344
OTHERS	
Apple Laserwriter II/IINT/IINTX 4 MB	$149
Brother HL-4 2/3/4 MB	119/165/189
Brother HL-8E V 1/2 MB	99/139
Compaq Pagemarq 15 & 20 1/4/8	49/139/266
Fujitsu RX7100/7200 1/2 MB	185/245
Kyocera F800, F800Am F800T 2/4	95/137
NEC Silentwriter 90/290	99/124
NEC Silentwriter 95 2 MB	104

AST MEMORY

Model	Memory	Price
Bravo 3/33(LC) 325S	2/8 MB	$84/299
Bravo 486/25 & 4/33	2/8 MB	109/309
Bravo 486LC	4/8/16 MB	145/295/565
Cupid-32 Board	0K	219
Premium 386C	4 MB	145
Premium SE 450	4 MB	145
Premium 386/25, SX,33,486/25	1 MB	40
Premium II 386, 486	1/4 MB	37/145
Executive Notebook	4 MB	134
Other Models		CALL

SUN MEMORY

Model	Memory	Price
SPARC SLC	4 MB	$145
3/60, 80, 4/40, 60, 65	4/16 MB	139/495
SPARC 1 &1+, 1Pc	4/16 MB	140/499
SPARC 10	16/64 MB	645/CALL
SUN Classic	16 MB	625
SPARC Server 630np	64 MB	2285
SUN IPX, ELC	4/16 MB	175/555
SPARC II	16 MB	560
Other Models		CALL

C.B.
Memory & Computers
1319 Jacklin Rd. • Milpitas, CA 95035
(Jacklin Exit Off 680)
TEL: (408) 946-5174 or 946-5175
Fax: (408) 946-5376

Preview:

Third Foresight Conference On Molecular Nanotechnology:

Computer-Aided Design Of Molecular Systems

The reaction saying that nanotechnology is just too strange, too big, there are too many unknowns, too many ways in which the technology could be abused or could go wrong, is, I think, a very realistic scenario. It's also my nightmare scenario.

When I began pursuing these ideas in an intellectual sense in early 1977, I rapidly concluded that the changes that could result from this path of technology development were so large, and the potential for abuse, and in particular military abuse, was so large, that I wouldn't say anything about it, except to a small circle of friends at MIT. And indeed I didn't get around to publishing a scientific paper until 1981, and that was as a result of seeing that the technology was moving this way anyway; silence was not going to lead to an indefinitely slow scenario, it would only slow things a bit while losing influence.

And that, I think, is the concern with attempts to avoid the challenges of this technology by a strategy of suppression. If one were to succeed completely forever—a human institution succeeding completely forever worldwide—then you would never get nanotechnology, whatever that is. You'd draw a line somewhere, and somehow keep anyone with whatever the computers are of the future, whatever the chemistry is of the future—for the indefinite future, you would somehow keep them from ever building molecular machines that could be used to guide mechanosynthesis.

I don't think that that is possible. If it were possible, it might be an attractive option. I think that if you try that and fail, the result is that the technology emerges later, but it emerges outside of the sphere of control of those with the greatest concerns about its potential abuse. It emerges in a relatively secret way rather than a relatively open way. And the consequence is that you get the technology, you get it later, and you get it worse.

I agree it's a realistic scenario that suppression of the technology will be attempted. It is, I think, in many ways, attractive in a superficial way—how does the saying go, that for any problem there is a solution that is simple, obvious, and wrong? I'm afraid that that path, which may well be taken, depending in large measure on how these issues are framed and articulated, and how well the points I just outlined are understood, will buy a bit of time, but lead to a greater probability of disaster.

I think the safe path is a path in which those who are concerned with the misapplications lead, and lead in the most positive direction that we can identify.

-Eric Drexler, First General Conference on Nanotechnology, November 1992

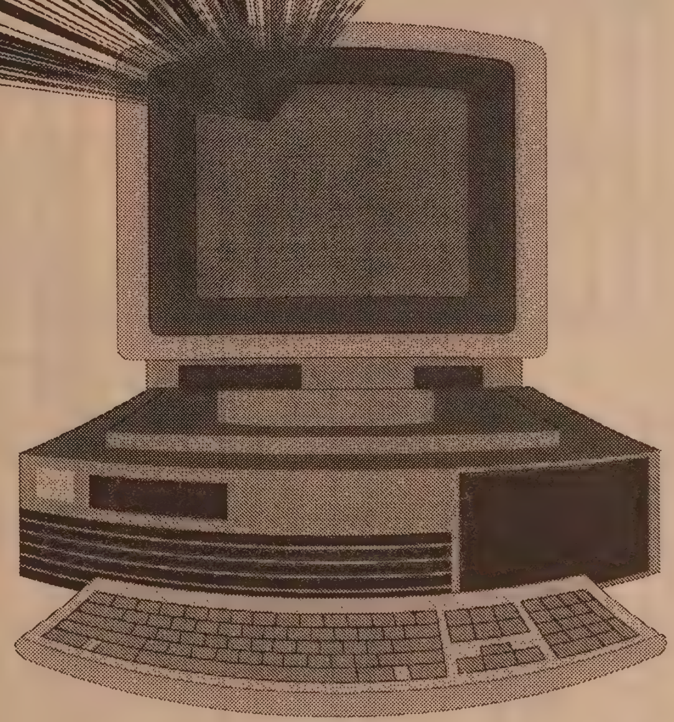
Monitors

Networks

Plotters

(408)263-8500

ONSITE Service & Repair



FREE LOANERS

Maintenance Contracts

Rentals Available

We Service

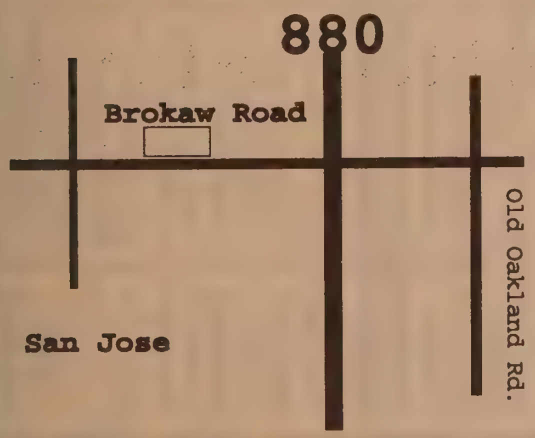
SYSTEMS:
All Clones
IBM (AT/PS2)
Compaq
HP, DEC, SUN
AT&T, ALR
AST, Everex
ALL MAC's/Apples

PRINTERS:
All Dot Matrix
All Laser Printers

MONITORS:
All EGA, VGA, SVGA

PLOTTERS:
H.P. (All models)

NETWORKS:
Novell
MS for Workgroups
LANtastic



Please Call
(408)263-8500

Store Hours
Mon-Fri 8:00-6:00
Sat. 10:00-3:00
Sun. Closed

* * *

Corporate P.O.'s, C.C.'s & checks are always welcome.

FAX# (408)434-0551

Clip Coupon

September Special

$ 50.00*
FLAT-RATE
LABOR

* PARTS extra, if needed.
Does NOT include Monitors

CompuTask

YOUR COMPUTER MAINTENANCE COMPANY
565 E. Brokaw Road, San Jose, CA 95131

VISA
MasterCard
AMERICAN EXPRESS

Tel#s: (800)-REAL-PCS (408) PCs-FOR-U
(800)-732-5727 (408) 727-3678
(408) 496-6953

ASA

COMPUTERS, INC

2354 Calle Del Mundo, Santa Clara, CA
Open Mon - Fri 9 - 6:30: Sat 10 - 4

Tech Support: (408) 496-6853 Ext215 Mon - Fri 9 - 5

International Orders via Fax: (408) 988-0359

Business Class Multi-Media System

486DX-33 w/256K
MustangF VLB MB
Med Tower Case
16MB RAM
340 MB IDE HD
Mustang VLB IDE/IO
Diamond 24 Stealth VLB
1.2 MB 5.25" FD
1.44 MB 3.5" FD
Pro Audio Spectrum 16
Toshiba 3401 CD-ROM
Labtec Speakers
Mitac 15"
KeyBoard

...........$2624

Home Use Multi-Media System

386SX33 MB
Mini Tower Case
4 MB RAM
120 MB IDE HD
IDE w/2SPG
1.2 MB 5.25" FD
1.44" MB 3.5" FD
VGA w/512K
Heyna SB Compatible
Mitsumi 350ms CD-ROM
Mustang Speakers
VGA 13"(Ref 6 mon)
KeyBoard
..............$999

ASA COMPUTERS, INC

[408] 496-6853

Also check later in this Ad for the store closest to you.

This is a sample chart to help you configure systems.

Look at our other pages for more peripherals.

SYSTEM CACHE 64K on all DX MBs $25 more for 256K	Basic System M/B, 1MB mini tower IDE/2SPG 1.44 FDD 101 K/B	Basic System +40MB ide 14" mono Mon MGP Card	Basic System +40MB ide 13" VGA Col .28 Ref. 1 yr. War. VGA Card	Basic System +80MB ide 14" SVGA .39 SVGA 512 Card Total 4MB 5/17/93	Basic System +120MB ide 14" SVGA .28 SVGA 1MB Card Total 4MB +1.2 Floppy	Basic System +200MB ide 14" NI SVGA .28 SVGA 1MB Card Total 8MB +1.2 Floppy	Basic System +340MB ide 14" NI SVGA .28 SVGA 1MB Card Total 8MB +1.2 Floppy	Basic System +340MB ide 14" NI SVGA .28 SVGA 1MB Card Ttl 8MB +1.2 fdd CD-ROM, Spkrs Sound, J stick,
PENTIUM-VLB	$2,313	VLB Machines have VLB IO/IDE and VLB 1MB SVGA				$3,244	$3,344	$3,589
486DX-66 VLB	$802	where applicable			$1,477	$1,733	$1,833	$2,078
486DX-50 VLB	$723				$1,398	$1,654	$1,754	$1,999
486DX-33 VLB	$557				$1,232	$1,488	$1,588	$1,833
486SX-25 VLB	$389	Corporate: 48 hr On-site plan available			$1,065	$1,320	$1,420	$1,665
486DX2-66 EISA	$858				$1,496	$1,751	$1,851	$2,096
486DX2-66 ISA	$754		$1,039	$1,286	$1,392	$1,648	$1,748	$1,993
486DX-33 ISA	$534	$731	$819	$1,066	$1,172	$1,428	$1,528	$1,773
486DLC-40 ISA	$351	$548	$635	$882	$989	$1,244	$1,344	$1,589
486SLC-25 ISA	$298	$495	$582	$829	$936	$1,191	$1,291	
386DX-40 ISA	$287	$484	$571	$818	$925	$1,180		
386SX-33 ISA	$235	$432	$520	$767	$873	Free mouse w/ all systems		
286-20 ISA	$221	$418	$505	$752	$859	Memory prices change, so ask for current prices.		

This Matrix is updated frequently, please give us a call and we will fax you the latest version

VAR's and reseller's call for our reseller matrix.

All ASA build systems have an in-house system warranty of three years.

Parts Warranty is 1 year.

......................TOP OF THE LINE LOCAL BUS GRAPHICS/CAD WORKSTATIONS..........

add $1499 for pentium CPU

SPECS	DIAMOND	ATI	ORCHID	NUMBER NINE	MUSTANG	PEGASUS
Motherboard	DIAMOND Fastbus	MICRONICS MX-30**	ORCHID	AMI Super Voyager**	MUSTANG**ISA/VESA	PEGASUS**EISA/VESA
Power	486-66 256K CACHE	486-66 256K CACHE	486-66 256K CACHE	486-66 256K CACHE	486-66 256K CACHE	486-66 256K CACHE
Video Power*	50 winmark	26 winmark	50 winmark	42 winmark	54 winmark	54 winmark
RAM	8MB-70 exp to 128MB	8MB-70 exp to 64MB	8MB-70 exp to 32MB	8MB-70 exp to 64MB	8MB-70 EXP TO 32	8MB-70 EXP TO 256MB
BIOS	DIAMOND	PHOENIX	AMI	AMI	AMI	AMI
Exp. Slots	2 VESA, 5 ISA	2 VESA, 6 ISA	2 VESA, 5 ISA	2 VESA, 6 ISA	2 VESA, 5 ISA	2 VESA, 6 EISA
Floppy Drives	1.2, 1.44 Teac Drives	Same	Same	Same	Same	Same
HFC/IO	32 bit orchid VLB	32 bit orchid VLB	32 bit orchid VLB	32 bit orchid VLB	32 bit mustang VLB	Promise w/2MB Cache
Case,230 UL	Med Tower 230 PS	Same	Same	Same	Same	Same
Keyboard	Keytronic/Maxi Switch	Same	Same	Same	Same	Same
Video Card	DIAMOND-VIPER	ATI-ULTRA PRO	ORCHID CELSIUS 9000	#9 LEVEL 11	SPIDER BLACK WIDOW	SPIDER BLACK WIDOW
Spc. Features	2MB VRAM	2MB VRAM	1MB VRAM	2MB RAM	1MB DRAM	1MB DRAM
	1280X1024X256Clr 74Hz NI	1280X1024X16Clr 74Hz NI		Virtual rsltn upto 2048x1024	1280x1024 16clr 60Hz NI	1280x1024 16clr 60Hz NI
	1024x768x66kClr, 76Hz NI	Same	Same	1024x768x66KClr, 100Hz NI	1024x768 256clr 72Hz NI	1024x768 256clr 72Hz NI
32bit Proc	WEITEK P9000	MACH32	WEITEK P9000	S3 928 GUI Accelerator	S386C805	S386C805
Video Mnfr #	408-736-2000	416-756-0711	510-683-0300	617-674-0009	408-956-1231	408-956-1231
Price	**$1,782**	**$1,914**	**$1,639**	**$2,013**	**$1,549**	**$1,968**

All CPUs have a cooling fan with heat sink. * PC magazine 2.5 **Intel Pentium Socket

Professional Multi-Media System

486DX2-66 w/256K
AMI Enterprise III
Diamond Full Tower
32 MB RAM
AMI SCSI/LAN VLB
Diamond Viper VLB
1.2 GB Toshiba HD
1.2 MB 5.25" FD
1.44 MB 3.5" FD
TrueVision Targa+ 16
Toshiba 3401B CD-ROM
Labtec CS800 Speaker
Hitachi Accu PS21
Microsoft Mouse
Focus 9000 KB
DOS 6.0
Windows 3.1
..........$8539

Student Multi-Media System

483SX-25 VLB
Mini Tower Case
8 MB RAM
245 MB IDE HD
IDE w/2SPG
1.2 MB 5.25" FD
1.44" MB 3.5" FD
Orchid Fah VLB w/1MB
Pro Audio Spectrum 16
Mitsumi CD-ROM
14" 1024x768 .28
Mustang Speakers
KeyBoard
CD 6PK Bundle
..........$1775

Tel: [408] 496-6953 ASA COMPUTERS Fax: [408] 988-0359

(408) PCs-FOR-U ASA COMPUTERS 1-800-REAL-PCs

On-Site Service

On-site service available
San Francisco Bay Area
Corporations please enquire when ordering full systems.

NOVELL WORKSTATION

Diskless, Novell remote bootable, K/B, Monitor $299.98

LOCAL BUS

MOTHERBOARDS

(Many of our new M/Bs have Pentium Socket)

Mustang 486SX-25	$184
MustangT 486-33/50/66...w/256k.......w/Pentium Socket	$437/595/666
MustangF 486-33/50/66 w/256k	$399/551/623
Pegasus vlb Elsa/Vesa Pentium ready.........486-33/50/66.w/256K	**$645/790/869**
ORCHID 486-33/50/66-256K	$460/615/690
Diamond Fstbs 33/50/66.w/ideio	$504/655/728
Micronix 486-33/50/66	**$688/840/912**
AMI Super Voyager 486-33/50/66 w/256k...	**$745/893/970**
AMI Enterprise III 486-33/50/66 w/256k.......EISA/VESA	**$970/1117/1194**

CONTROLLERS

Mustang IDE/IO	**$41**
Mustang O (Orchid Comp) IDE/IO VLB	$51
ORCHID IDE/IO vlb	$68
DTC 2272 VLB IDE / IO **wo/Game**	$61
DTC 2270 VLB 8.3MB/sec IDE / IO	$79
DTC VLB 3270 SCSI	$120
Promise DC-4030 VLB 4HD/2FD	$175
Forex Bus-Master VESA,50Hz	$205
BusLogic BT445S VLB Fast SCSI-II	$289
Mustang IDE/IO Cach15.6mb/sec	$170
UltraStor SCSI 34F, 32k Card..10mb/sec.	$265
UltraStor SCSI 34F, 32k Kit	**$320**
AMI SCSI VLB	$470

GRAPHIC ADAPTERS

(wm = winmark ver2.5)

DIAMOND Stealth 24vlb S3-805 1mb dram	$164
DIAMOND Stealth pro 1/2MB ram,36wm	$257/336
DIAMOND Viper 1/2MB,9000,50wm	$296/385
ORCHID Fahrenheit S3-805, 1/2MB	$152/196
ORCHID Same w/voice annotation	$199
ORCHID Celsius 1MB	$235
ORCHID P9000 2MB	$363
Spider 32 VLB 1MB,20 WM	$99
Spider 32 VLB Plus 1MB	$109
Spider Blk windows 1MB 54 WM	$219
Spider Blk windows 2MB	$286
ATI Ultra Pro, 1/2MB, 26wm	$296/352
Mustang VLBCirrus logic1/2MB	**$89/130**

NOTEBOOKS

ESCORT

386SL/25,80MB,2MB-CLR	$1760
486SLC/33,80MB,HDD,2MB	$1395

BONDWELL

486SLC/25, 80MB, HD, 4MB	$1429
486SLC/33, 130MB, HD, 4MB	$1569

TWINHEAD SLIMNOTE

386 SXL-25, 2MB, 60MB / 80MB	$1294 / $1339
486 SLC-33, 2MB, 80MB/130MB	$1650 / $1794

LEADING EDGE

386 SXL-25, 4MB, 80MB	$1431
386 SL-25, 2MB, 80MB, COLOR	$1980

CHAPLET/SUNRACE

386 SX25, 4MB, 80MB/120MB	$1199 / $1399
486 SLC, 2MB, 80MB/120MB	$1475 / $1599

(........the only notebook w/SCSI port........)

Call for high end notebooks and notebook accessories

Raid Disk Arrays

Support of RAID levels 0,1, and 5; 5 Channel Multi-thread I/O;Hot swap of drive;Novell, SCO UNIX, DOS.....
Ask for Paul at [408] 496-6853X208

Disk Pack Drives

Bootable, Portable, Mechanically protected Bases and Disk Packs Millitary/Government/Corporate ....data security usage
Ask for Paul at [408] 496-6853X208

MOTHERBOARDS

(Many MB,s have Pentium Socket) See Local Bus Section

286-12/20	**$42/59**
386SX-33/40	**$74/84**
Stallion 386DX-40 w/64k Cache	**$115**
Stallion 486SLC-25 Cyrix	**$143**
Stallion 486SX25	**$145**
Stallion 486DLC-33/40 w/64K	**$183/219**
Stallion 486SX33 64k	**$249**
Stallion 486DX-33 with 64/256k	**$369/389**
Stallion 486DX-50/66 w/256k	**$539/609**
Stallion EISA 486DX-33/50 w/256k	**$473/629**
Stallion EISA 486DX2-66 w/256	**$689**

Call for pricing of M/Bs w/o CPU

CONTROLLERS

IDE 2FD-2HD/4FD-2HD	$12/26
IDE w/ 2SPG..gen	$16
IDE Caching Ultrastor 15C (upto 8MB)	**$195**
IDE Caching Promise DC200 2FD/4HD	**$112**
IDE Caching Promise DC2032 2FD/4HD,IO	**$149**
IDE EISA DTC	$135
Kouwell 531 4Port Serial 16C550	$69
Kouwell 2spg 16C550	$45

SCSI

Future Domain Comp	**$52**
Trantor SCSI Adapter	**$67**
Future Domain TMC1680 SCSI II C/K	**$165/245**
DTC3292K..7HD&4FD	$349
DTC3290AS 7HD&4FD Caching	**$486**
ADAP 1542C Card/Kit	**$199/245**
ADAP 1542C+ Kit	**$310**
ADAP 2742 EISA Fast SCSI2 C/K	**$319/379**
ALWAYS IN2000/IN2000-Pro SCSI1	$179/225
BusLogic BT747S EISA Fast SCSI2 Kit	**$395**
Ultar24F EISA SCSI HD/FD	**$365**
Promise DC2040 Caching(upto 16MB)	**$215**
AMI EISA Cache	**$499**
DPT Smart CachePlus+ EISA SCSI	$427
Trantor348 Parallel Port to SCSI	$179

ESDI

DTC	$127
Ultra 12C 1/4MB	**$370**
Ultra 22F Caching EISA	$340

ADAPTERS

(See Local Bus and CAD Sections too)

MGP	$12
Color Card	$23

VGA/SVGA

VGA 256k	$26
Trident 512K/1MB	$35/52
Tseng 1MB	$78
Mustang 1MB Window Accel	$58
Diamond Speedstar Pro	**$139**
Diamond Stealth 24	**$164**
Fahrenheit Plus wo/w VA	$165/219
Hercules Graphite HG210SVGA 1280x1024I w/1MB	**$255**
Hercules Graphite HG420SVGA 1280x1024I w/2MB.	**$440**
AMI Fast View w/2MB Weitek P9000	**$call**
AMI Fast View EISA VGA Graphics w/1MB	**$call**
ATI Ultra Grpx 1MB w/Mouse	**$239**
ATI Ultra Plus w1/2MB	**$219/245**
ATI Ultra Pro w1/2MB	**$329/365**

Fault-Tolerant Servers

w/ Disk Mirroring, Disk Duplexing Synchronous Disk Support. Novell, SCO Unix, DOS, OS/2....
Ask for Paul at [408] 496-6853X208

Export PCs.

386-SX33M/B,1MB,1.44 and 1.2 FDD, 40MB HDD, IDE/2SPG, most languages K/B,Mouse, 100/220V (min 50 pcs)
13" VGA/14" SVGA....$525/580

MONITORS

MONO

Mono 12"	$78
Mono 14"....amber/white	$89
Mono 9" VGA	$125
Mono 14" SVGA 1024 x 768	$112

VGA/SVGA

VGA 13" .28 Color.refurb..1yr	**$160**
VGA 14" 640 x 480, .51	$173
SVGA 14" 1024x768 .39	$192
SVGA 14" 1024 x 768, .28 dpi	**$227**
CTX Autoswitch 1024, .28 dpi	$252
SVGA 14" 1024x768 .28 NonInt	$251
Black SVGA 1024,.28 I/NI	**$279/320**
CTX 14" 1024 .28dpi Hitachi NI	**$270**
Viewsonic V6E 14", 1024 .28 NI	$323
Viewsonic 15, 1280 .28 NI	$530
Sony 1430S 14" 1024 MicroPro MPRII	$563
Impression 15" .28 NI	$355
Samsung 15" NI Flat .28dpi 72 Hz	$449
Sampo KDM1566 15" 1024 .28 NI	$439
Mitac 17" .26 1024	***$865***
Mitac 17" .31dpi 1024 72Hz NI	**$475**
Sampo KDM1766 17"	$655
Maganavox 20" 1280 x 1024 NI	**$1250**

See Many High-End Monitors in the Engineering/CAD Section.

CASES/PS

Baby Desk/Mini Tower w/ PS	**$49**
Medium Tower	**$77**
Full Tower/Super T. w/PS	**$89/155**
Rack Mount W/PS	**$259**
File Server w/ 400W PS, 3 Fans...............12 F/HDD, black/beige	**$439**

DIAMOND (Black/Beige)

Baby Desk/Tower w/PS	**$79/82**
Medium Tower Reg/Big w/PS	**$89/119**
Full Tower w /PS	**$129**

External HDD Cases

1HH...65W	**$89**
1FH/2HH...65W	**$110**
2FH/3HH...65W	**$137**
SCSI Cables Int/Ext	**$9/10**

Power Supplies

PS2 200/300W	**$40/95**
Full Tower 230W	**$58**
Full Tower 300/400	**$80/154**

KEYBOARDS, MICE

Spill Resistant/Mitsumi	$20/17
MaxiSwitch / M-Click	$29/34
KeyTronic	$35
BLACK 101	$39
Small 11.5" 84 Keys	$42
SEJIN J-Mouse (mouse under 'J' Key)	**$89**

Also line of European/Arabic KBs

S-Mouse/TBall	$9/21
LogiTech wht box Ser/Bus	$33/45
LogiTech MouseMan Ser/Par	$64
Microsoft white box S/B	$39/69
BLACK SERIAL	$19

DRIVES

Floppy Drives

YE Data 1.2/1.44MB	$45/40
Teac 1.2/1.44MB	$47/42
Teac Dual Floppy 1.2 + 1.44 MB	$116
YE Data/Teac 2.88 MB	$82/89
Toshiba 2.88MB	$58
.....w/contl & 2.88 floppy disk	$94

FLOPTICAL

IOMEGA 21MB w/1 Disk, Cable	$369
YE-DATA 21MB w/5 Disks	$349

NOTEBOOK DRIVES

QUN 120 /160MB 16msec	$245/419

IDE

ST 42MB 27 msec	$97
CON 80/120MB 19 msec	$154/162
QUN 85/127MB 17 msec	$170/180
MXT 131MB 14 msec	$173
CON 170MB 17 msec	$175
QUN 170MB 17 msec	$199
CON 212MB 12 msec	$220
CON 250MB 14msec	$222
MXT 213MB 15 msec	$216
QUN 240MB Fast	$255
MXT 245MB 15 msec	$226
WD 250MB 14 msec	$220
CON 340MB 12 msec	$320
WD 340/MXT 345MB 12/14 msec	$292/294
QUN 525MB Fast	$649
FUJ 520MB 11 msec 5yr	$649
CON 540MB 12 msec	$call
WD 425MB 11msec	$415

SCSI - 3.5"

QUN 85/127MB 17 msec	$175/205
MXT 130MB 15 msec	$195
CON 170MB 17 msec	$204
MXT 213MB 15 msec	$245
CON 212/CON 250MB 12/14 msec	$220/222
QUN 240MB Fast	$259
MXT 340MB 15 msec	$397
FUJ 520/QUN 525MB 11 msec 5 yr	$659
CON 540MB 12 msec	$695
QUN 700MB 10 msec	$775
TOSH 877MB 12 msec	**$835**
H-P 1.2GB 10 msec	$1059
QUN 1.0GB 10 msec	$969
DEC 1.0GB 9.5msec	$1179
MXT 1.2GB 8 msec Magix	**$1139**
ST/FUJ 1.2GB 10 msec	$959/979
QUN 1.2GB <10 msec	$1059
TOSH 1.2GB 12 msec	**$930**
DEC 1.6GB 9.5msec	1579

SCSI - 5.25"

MXT 1.2GB 13 msec Panther	**$930**
FUJ 1.2GB 14 msec	$1040
H-P 1.7GB 11.5 msec	$1979
MXT 1.7GB 13 msec Panther	**$1130**
ST 1.3GB 11 msec Elite I	$1749
FUJ 2.0 GB 11 msec	$1836
ST 2.1GB 14 msec	$1575
H-P 1.8/2.0GB 11.5 msec	$1975/2375
DEC 2.0GB 12.5msec	$1879
Fuj 2.4GB 12 msec	$1929
ST 2.4GB 11 msec Elite II	$2185
ST 3.4GB 11 msec	$2795
DEC 3.5GB 11.5msec	$3575

SUPER HARD DRIVES

Seagate Barracuda 3.5" HH (8 msec ....avg. seek, 4.17 msec lat., 7200 RPM)

Barracuda 1.7 / 2.5 GB	$1925/2599

EXTERNAL HARD DRIVE SUB SYTEMS

FOR EXT. HARD DRIVE ADD $99

FLASH Card Hard DRIVE

ST 75A 1.8" 5.2MB IDE < 1.5ms	call
ST 710A 1.8" 10.4MB IDE < 1.5ms	call
ST 720A 1.8" 20.9MB IDE < 1.5ms	call
ST 740A 1.8" 41.9MB IDE < 1.5ms	call

BACKUP DEVICES

(<500MB TAPE-BACKUPs)

Colorado 120 / 250MB	$137 / 170
Colorado KE-10 External kit with card	$105
Colorado External port card	$37
FC-10 high perf card	$85
Colorado Trakker 120 / 250MB	$295 / 340
Archive 250MB w/QIC, 15MB/min, 1"H	$165
.....w/Central point SW add	$25
Archive Viper 250MB hh SCSI I/E	**$349/ 449**

(>500MB for PC / SERVER)

Viper 525MB hh SCSI Int/Ext 6MB/sec	$475/575
ARCHIVE 4320 NT 2.0GB DAT DDS 3.5"	$875
ARCHIVE 4324NT 4.0GB TURBO DAT DDS-DC 3.5"	$1075
SONY SDT2000 2.0GB DAT DDS 3.5"	$829
SONY SDT4000 4.0GB DAT DDS DC 3.5"	$950
SONY SDT5000 4.0GB DAT DDS-2 3.5"	$1160
Colorado 700MB	689
.......FC-15 high perf card	$181
Colorado 2.4 / 4.0 GB Qic 5.25	$969 / 1499
YE DATA 1.2GB SCSI...DAT	**$529**
HP 2GB DAT 4mm Int/Ext	$1095/1195
HP 5GB DAT 4mm Int/Ext	$1320/1475
MAYNARD 2GB 4mm DAT Int/Ext	$1890/2060
MOUNT FS1200 4mm DAT Int/Ext	$1840/2133
EXABYTE 8200 2GB DAT HH Int/Ext	$1485/1745
EXABYTE 8205 5GB HH 2yrs Int/Ext	$1434/1709
EXABYTE 8505 10GB HH 2yrs Int/Ext	$2309/2575

..(above drives require special contr & soft drivers)

TAPE BACKUP DRIVERS

NOVASTOR

Novaback for DOS	$89
Novaback for OS/2	$89
Novanet Multiuser NLM	$439
SYTOS for DOS/NOVELL, GEN	$120
ARCserve Solo	$185
CONNER-EXEC NLM BACKUP SW	$445

OPTICAL DRIVES

ERASABLE(Rewritable)

TEAC 128MB 3.5" Int/Ext	$749/859
RICOH 5031E Internal 650MB	$2250
PINACLE MICRO 650MB 19msec	$2995
PANASONIC 1GB Internal	$2489
MAXOPTIC 1GB Tahiti IIM 35msec	$2685
PINACLE MICRO 10GB 19msec Ext	**$7995**

STORAGE MEDIA

Floppy 1.44 Bulk	$.79
Floppy 1.2 Bulk	$.49
Tape DC2000XL	$18
Tape DC2120 250MB..Formatted	$18.5
Tape DC 6250 5.25", 1/4" Cartridge	$27
Tape DC 6525 5.25", 1/4" Cartridge	$31
TK50 for DECs	$26
DT-2400 2.4GB .25" Cartridge	$54
DT-4000 4.0 GB .25" Cartridge	$57
DAT 4mm 60/90 mtr	$19/29
DAT 8mm 54/112 mtr	$18/24
Syquest 44MB Cart	$62
Syquest 88MB Cart	$94
Syquest 105MB Cart..(IDE)	$85
Bernoulli 44MB 3Pk	$315
Bernoulli 90MN 3Pk	$415
Magneto-Optical 650MB Cartridge	$159

OPTICAL CARTRIDGES

600MB 5.25"	$109
650MB 5.25"	$109
128MB 3.5"	$59
10024 B/S WORM 5.25"	$109

REMOVABLE

Syquest 44MB Dr	$249
......W/Ext Case, Cables, Cart, Cont	$379
Syquest 88/105MB Dr	$308/469
Bernoulli 44/99 Insider	$907/840
IDE: Upto 1GB removable kits	$39
SCSI: Upto 1GB Removable Kits	$138

SOFTWARE

UTILITIES

Norton Utilities V7.0	$107
Norton Anti-Virus V2.1	$78
QEMM 386 V7.0	$59
AfterDark V2.0A/WIN	$26/30
PC Tools V8.0A	$112
Auto Doubler V1.07	$55
Disk Doubler V3.76	$55
LapLink V5.0 FOR NETWARE	$72
Fastback Plus V3.1	$99
Star Trek Screen Saver	$34
Stacker 3.1	$94
WAVE FOR WINDOWS V2.0	$70

DESKTOP PUBLISHING AND GRAPHICS

Adobe Type Manager V2.5	$66
Corel Draw V4.0./UPGRADE	$359/295
Co-Session	$95
Pagemaker/WIN V5.0	$499
Harvard Graphics For Windows	$295
Super Paint V3.0	$115
Norton Desk Top/WIN V2.2	$102
Micrographx Graphics Works	$179
More Windows	$67
More Fonts 3.0	$75
Approach V1.0 WIN	$250

DATABASE

Access For Windows	$99
CA-Clipper V5.2	$469
DBASE IV V2.0	$470
FoxPro For Windows/DOS 2.5 Upgrade	$199
FoxPro LAN (6-Pak)	call
Paradox V4.0	$479
Paradox For WIN	$129
Q & A 4.0	$210
Superbase 2.0 WIN	$345
LOTUS SMARTSUITE	$445
GUPTA SQL FOR DOS	$2795
GUPTA SQL GATEWAY FOR NETWARE	$3495
GUPTA SQL ROUTER/SQL SERVER	$195

ACCOUNTING

CA-Accpac BPI Integrated	$150
CA-Accpac Simply Accounting DOS	$79
DAC Easy Accounting/Payroll 4.3	$95/72
ACCOUNTING BONUSPACK V 4.4	$155
Peachtree Complete Accounting V7.0	$179
Office For Windows 3.0	$459
Works For Windows 2.0	$130
Project For Windows 3.0	$425
Profit For Windows V1.0	$130

SPREADSHEETS

Improv FOR WIN	$99
LOTUS WORK V3.0	$89
MS Excel 4.0	$299
MS Works For Windows	$130
Quattro Pro V4.0 WIN/DOS	$99

WORD PROCESSING & GRAPHICS

AMI Pro 3.0	$279
Grammatik FOR WIN V2.0	$69
Professional Write v2.2	$159
MS Word FOR WIN V2.0	$250
WordPerfect 5.2 for Windows	$295
WordPerfect 6.0 for DOS	$289
WordStar 7.0 FOR DOS	$269
Microsoft Word For Windows 2.0	$299

COMMUNICATIONS

Procomm Plus 2.01	$79
Procomm Plus For Windows V1.02	$97
WinFax Pro 3.0 For Windows	$82
Norton PC Anywhere 4.5	$75
Prodigy Start-Up Kit 3.2	$29

PROGRAMMING LANGS & OPERATING SYSTEMS

MS-DOS 6.0 Upgrade	$80
Windows NT 3.1/Upgrade	**$325/285**

Ask For Our CD Titles
More Than 200 Titles Available

(408) PCs-FOR-U

ASA COMPUTERS, INC.

(800) REAL-PCs

Toshiba CD ROM
CD 3401B CD ROM 200ms
..........**$393**
Coupon

Best CD Buy
Mitsumi CDROM 350 ms, Hyena Sound card, Speakers, MicPhone, joystick.........**$254**
w/ 6 cd pak..**$334**
Coupon

Hottest CD,Sound
Tshiba 3401B int CD 200ms, Pro Audio 16 oem card, 256k cache, Multi sess, Caddy, scsi cable, Speakers.....**$540**
w/ 6 CD pak..**$620**
Coupon

MONITORS
640x480 .28 13"refurb
640x480 .51 14"
1024x768 .28 14"
1024 .28 14" NI
...**$155/163/223/250**
Coupon

15" MONITORS
1280 .28 15"
MAG1564 1280NI oem
.........**$342/420**
Coupon

17" MONITORS
MAG17F 1280 .26 oem
Mitac 1024 .26
Hitachi CM 1785MV 1280NI .28 MP
......**$925/639/881**
Coupon

20" MONITORS
SAMPO 1280NI .31
Hitachi CM2095 .28
....**$975/1270**

245..510 MB HDD
CON/WD250 MB IDE
WD/MXT340 MB IDE
WD 420 MB IDE
CON510 MB IDE
..**$218/290/409/539**

SCSI HDD
Toshiba 877MB 3.5" 12ms
Toshiba 1.2GB 3.5" 12ms
SGT 1.2GB 3.5" 10ms
MXT 1.7GB 5.25" 13ms
$829/915/915/1129

FOR COUPON PURCHASE: No Refunds.....While Quantities last..... One Coupon per Customer..Cash or Check only.....Available at participating ASA Stores only.....Not valid with any other promotions......Walk in service only....Limited Stock.....No Demo.....

TELEPHONE VOICE MAIL SYSTEM

Get your phone system automated with Voice Mail system.
2 Port system with 17 hrs of message space
.....**$5500** includes installation
4 Port system...........**$7500.**
Three months - labor warranty, one year parts warranty

We provide full telephone system too.
PLease Fax requests to **(408) 988-0359** or Call (408) 496-6853 ext 204

MAIN BRANCH

ASA COMPUTERS, INC.
2354 Calle Del Mundo
Santa Clara, CA 95054

Tel: [800] 732-5727
Local Tel: [408] 727-3678
Fax: [408] 988-0359

Hours: M to F 9AM - 6:30PM
Sat: 10AM - 4PM

MIDWEST DIST

Indianapolis, IN
The Computer Centre
Tel: [317] 291-9211
Fax: [317] 291-1482

CA AFFILIATES

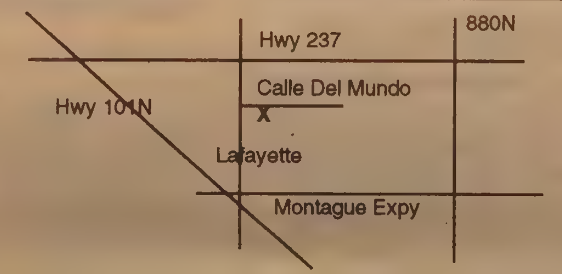
Pleasant Hill [sandalwdctr]
STI Computers
609 Gregory LN # 110
Tel: [510] 256-9938
Fax: [510] 256-9983

Other Affiliates

Phoenix, AZ
AIKA SYSTEMS
Tel/Fax: [602] 443-3618

York, PA
ASA COMPUTERS, INC.
Tel/Fax: [717] 854-7473

Each Store is independantly owned, operated, and responsible for their own Liabilities.



Integation and service with pride

QUICK-QUOTE-BY-FAX

ORDER/QUOTATION FORM *(Circle One)*
FAX: (408) 988-0359, TEL: (408) 496-6953

Name:__________ Tel:__________
Company:__________ Fax:__________
Address:__________ City:__________ ST/Zip:__________
Terms:__________ Sales Rep:__________

Systems I: Qty_____
Motherboard & CPU________ Math-Co________ RAM________
Case/PS________ FDD________ HDD________ Drive Cont________
Video________ Keyboard________ Price________

Systems II: Qty_____
Motherboard & CPU________ Math-Co________ RAM________
Case/PS________ FDD________ HDD________ Drive Cont________
Video________ Keyboard________ Price________

Systems III: Qty_____
Motherboard & CPU________ Math-Co________ RAM________
Case/PS________ FDD________ HDD________ Drive Cont________
Video________ Keyboard________ Price________

Peripherals/Parts:

Description	Qty	Price

Softwares:

Description	Qty	Price

Sub Total:________ Tax 8.25%:________ Others(if applicable):________
TOTAL:________

The Best Systems, Component Prices & Service

1. Please fill out all the relevant sections of the above form. Be sure to put down detailed descriptions or specifications for systems, components, peripherals, and softwares. It is vital for us to have your name, address, phone number, fax number, etc. for us to help you promptly and effectively.
2. Please call to check if we sell an item that may not be listed in this advertisement. This list is not an exhaustive list. Please excuse typos.

TERMS

Credit terms are available on approval. Manufacturer's limited warranty on parts varies. Three years limited warranty on systems assembly labor. Prices are subject to change. Prices marked with a "*" are on cash basis only. Items not regularly held in stock have to be ordered.

International Orders 24 hours via Fax
(VISA/MasterCard/Wire Transfer)

ENGINEERING CAD/CAM

Monitors

Nanao

F340iw 15", .28, 72HZ, MPRII, Micrp..($655*)	$689
F550iw 17" FST 1280NI, .28, 75Hz NI	$1075
F760iw 21" FST 1280NI, .31	$2095
F550i 17", FST, 1280, .28, *MPRII*	$1008
T560i 17", Trin, 1280, .26, *MPRII*	$1643
T660i 20" Trin, 1280, 72Hz, MPRII, Micrp	$2400
F750i 21", .31, 1280, 72HZ, Micrp	$2028

Hitachi

CM1785MV 17" FST, .28.1280NI, MPRII	$885
CM2095 20" 1280 Anti Glare	$1280
CM2087 20" 1280 72Hz Microp	$1580
CM2187 21" FST 1600x1280 Microp	$1990
ACCUVUE PS-21 A, .28	$2249
ACCUVUE PS-21, .28	$2095

Sony

CPD1730 17"	$967
GDM2036S 20", .1280NI, MPRII	$1990
GDM2038 20"	$2225

Sampo

Sampo KDM177 17"NI 1280x1068 .28dp MRPIL	**$899**
Sampo KDM207 20" NI 1280x1068 .31dp..MPRII	**$1495**

Magnavox

20CM64 20", 1280NI, .31	**$1250**

NEC

3FGE 15", .28, 1024NI	$577
4FGE 15", .28, 1024NI ($677*)	**$720**
5FGE 17", .28, 1024NI ($1076*)	**$1120**
6FG 21", .28, 1280NI ($2285*)	$2350

MAG

MX17F, 17" .26, 1280NI, Micro Org/Oem.	**$1000/935**
LX1564 15" .28, 1280NI	**$469**

PHILIPS

1557AS 1024x768	$565
1762DT 17", TRIN, .25, 1280NI, Micrp, MPRII	$1090
2082DC 20", TRIN, .30, 1280, 72HZ	$1999
2182DC 21" .28, 1600X1280, Micrp, MPRII	$2459

GRAPHIC ADAPTERS

(Also See Local Bus and Adapters Sections)

NUMBER NINE - #9GXi/GXE

L23 WIND/ACAD, T34020, 1280, 16C	$929
L25F, 40MHZ, WIN/ ACAD, , 1280, 256C	$1195
L29 T34020, 1024X768X16.7M COLOR	$1315
L11 S3928, 2MB VRAM	$365
L12 WITH 3MB VRAM	$438

HERCULES

Graphite 1MB VRAM 1280 Accel	$289
Chrome C731 40MHz, 3MB, 72 Hz	$1399
Super S XP610, 40MHz, 1 MB	$749
Super S XP821, 40MHz, 1 MB	$1399

MATROX

MGA-IMP/1/A	$495
MGA-IMP/2/A	$695
MGA-IMP/3/U	$985
Impression UltraXG3 ASIC 1600, 7MB	$3595

METHEUS CORPORATION

Premier928 VL4 S386C928, Multi-Display	$619
1104 Plus 256 Hz, Multi-Display	$1295
UGA 1228 1280, 256, 60Hz	$1895
UGA 1228Hz 1280, 256, 74Hz	$2095

NATIONAL DESIGN

WARP 24LB2 SC 86C928, 2MB, 1280	$479
AT1600 4+1MB, 1600	$2995

VIDEO SEVEN

SPEA FIRE T134020, 1280X1024, 3D	$1349
SPEA 1280 4MB, 1280X1024X256	$1849

ASA COMPUTERS

PLOTTERS DIGITIZERS SCANNERS

PLOTTERS

HOUSTON INSTRUMENTS

Im Maker 1117, A/B, 8 Pen, HPGL	$632
DMP-161 A-D, 8 Pen, HP-GL/2	$2625
DMP-162 A-E, 8 Pen, HP-GL/2	$3439
DMP-162R A-E, 8 Pen, Roll Med	$3975
V50(INKJET A-C SIZE).....NEW	$1410

DIGITIZERS

SUMMAGRAPHICS

III 12x12 w/16btn or 4bt & Pen	$309
III 12x18 w/16btn or 4bt & Pen	$549

KURTA

XLP 12x12 w/4btn & Pen	$249
XLP 12x18 w/16btn or 4btn, Pen	$529
IS/ONE 12x12 4btn / 12btn / Pen	$329
IS/ONE 12x17 4btn / 12btn / Pen	$530
(IS/ONE also available w/Cordless 4btn or Pen)	
XLC 24 X 36	$1260
XLC 18 X 24	$1070

CALCOMP

CALCOMP 12 X 12	$279
CALCOMP 12 X 18	$629
CALCOMP 18 X 24	$1275
CALCOMP 6 X 9 P Series	$439
CALCOMP 12 X 12 P Series	$485

SCANNERS

LOGITECH (HAND-HELD)

SCANMAN-COLOR	$415
SCANMAN 256 / CatchWord PRO	$180/209
SCANMAN 32 / CatchWord PRO	$115/125

MICROTEK

SCANMAKER II 1200dpi, MAX	$851
SCANMAKER IIXE 1200dpi, MAX	$1140
SCANMAKER 1850 1850 dpi MAX	$1360
MS-II OCR SCANNER	$669
ADF-600 Automatic Sheet Feeder	$480
SCANMAKER 45t for Transparencies	NEW

RELISYS

(Cold Tube Design-Long Life, 4 Times Microtek e.tc)

COLDSCAN 800 dpi..w/PPLE	$975
COLDSCAN 600 dpi..w/PPLE	$825
COLDSCAN 600 dpi Grayscale..w/PPLE	$665
Calera WordSacn w/Scanner	$64
50 Page Automatic Document Feeder	$394

ARTISCAN

6000C 600dp, with colorshop software	$770
8000C 800dpi, with color shop software	$1040
1200C 1200 dpi, with color shop software	$1490
..Picture Pub LE or WordScan OCR	$64
..Slide Scan Kit for 6000C/8000C	$550
..Slide Scan Kit for 1200c	$650

UPS's

AMERICAN POWER

APC-BK250, 7min, 386SX, WS	**$101**
APC-BK400, 10min, 286, 386 WS	**$163**
APC-BK450, 10min, 386, 486 FS	**$195**
APC-BK600, 15min, 386, 486 FS	**$265**
APC-BK900, 15min Multiple FSs	$379
APC-BK1250, 15min Multiple FS	$506
Power Doctor	$70
Call UPS	$99
SMART-UPS (ON-LINE/AUTO BACKUP)	
APC-400, 10min, 286, 386 FS / WS	$304
APC-600LS, 15min, 386, 486 FS / WS	$394
APC-900, 15min, CAD/CAM WS/FS	$569
APC-1250, 15min, Multiple FSs	$747
APC-2000, 20 min, Mini Computers	$1170
Note: International version is also available	
SERENA 5.25" 300VA UPS mounts inside PC	

INTERFACE-KITS /SMART MONITORING

PowerChute SCO Xenix	$84
PowerChute Plus for Unix / Xenix	$115
PowerChute Plus for Novell	$72
UPS Monitoring Board Novell	$69

PRINTERS

Star Micronix NX1001 9 Pin. 120/220V	$134/144
Epson Action 2250 9 pin	$119
IGOR 80 9Pin 220V	$139
IGOR 132 9Pin Wide 220V (Cyri..).in stock	$149

CANON

BJ 200, 360dpi, 49k, 7fnts, 248cps, 4ppm	$340

OKIDATA

OL400, 4ppm, 300dpi ($559*)	$575
OL810, 8ppm, 300dpi	$965
OL830 Plus, 8ppm w/ 2MB post script	$1189
LASER	
OKI ML184T dot matrix, rugged industrial	$245
OKI ML320 320cps dot matrix	$315
OKI ML590 24 pin..auto form sensing	$464

PANASONIC

KX-P2123, N-Carr, 240cps, 360dpi, 10fnts	$255
KX-P2124, N-Carr, 320cps, 360dpi, 12fnts	$335
KX-P1624, W-Carr, 192cps, 360dpi, 14fnts	$365
LASER	
KX-P4410, 5ppm, 300dpi, 28fnts, 512k	$629
KX-P4410, 5ppm, 300dpi, 28fnts, 512k	$629

Citizen

200GX 9 pin...dual feeder, park	$159
GSX230 24 pin.8fonts, 270cps	$255
color option for Citizen 80 col printers	$42
GSX240 24 pin wide.....300cps, 13 fonts	$305
Notebook Pr. CTZPN48 w/bat	$290

MEMORY PRODUCTS

FAST MATH-COs

by CYRIX / INTEL / IIT

2C87-10/XL	$32/$39
3C87SX-16/20/25	$55
3C87SX-33	$69
3C87DX-25/33	$69
3C87DX-40	$75

SIMMS/SIPPS

256x9-80/70	$Call
1Mx9-80/70	$Call
1Mx9-60	$Call
4Mx9-80/70	$Call
4Mx9-60	$Call
DRAMs, and other SIMMs	available

ESIMMs - SUN / PC / LaserJet

1M x 36 - 80 / 70	$Call
2M x 36 - 80 / 70	$Call
4M x 36 - 80 / 70	$Call

Laser Extension Memory

HP IIP, IIIP	2/4MB	$88/147
HP II, IID	2/4MB	$104/163
HP IIISi	1/4MB	$59/148
HP IV	**4/8MB**	**$149/289**
Pan 441/2/30, 4450i	2/4MB	$118/178
Pan 4450	1MB	$113
Pan 4455	2MB	$134
Oki400	2MB	$99
Oki 800, 820	2/4MB	$103/163
Oki 810	1/2MB	$84/149
Epson 6000	2/4MB	$114/169
Epson 4000/8000	1/4MB	$114/179

CALL

(800) REAL-PCs

(408) PCs-FOR-U

MULTI MEDIA

Mitsumi Kit 350msec	**$175**
Hitchi CD-ROM CDR6700 260ms.300kb/s.I.	**$495**
NEC CDR-84/7280ms, ..300KB/sd/E	**$469/570**
TOSHIBA txm3401B/E, Int/ext	**$415/530**
...200ms access, 330 kb/sec	
Texel DM 3024/5024 265ms Access	
........300 KB/sec Int/Ext	$345 / 440
Teac CD50, Multispin, 270ms, 300kb/s	$325
6PAK [World/USAtlas, Chessmster, Typing Tutor, Anmals&Ency]	$84

Over 200 titles in stock (call for price sheet)

Sound Boards / MPC Kits

Hyena Sound Blaster Comp. Sound Card	**$49**
Hyena w/Speaker, Joystck, mcrphn, games	**$75**
MEDIA VISION	
Pro Audio Spectrum 16, ...ORG/OEM	$164/145
Pro Audio Studio 16	$199
Fusion Double CD16 Kit	$599
Pro 16 Multi-Media System/II	$669/879
Pro Movie Spectrum	$289
Pro Movie Studio II	$341
Midi Mate	$49
CDPC XL	$1075
CREATIVE LABS	
Discovery CD-ROM Kit 16bit	$459
Endutainment CD-ROM Kit 16bit	$530
Video Blaster	$329
Software Dev. Kit	$99
SoundBlaster 16ASP...[complt version]	**$209**
Sound Blaster Voice Editor	**$55**
Wave Blaster	**$240**
TRUE VISION	
Targa+16	$1239
Atvista 2/4MB	$2477/3300
Bravado 16 1MB	$1065
MISC	
Logitech Fotoman Digital Camera for PC	$465
Logitech SoundMan 16	$149
Intel Smart Video Recorder	**$520**
CARDINAL TECH Digtl Sound Pro 16/Plu.	$145/186
Video Logic Captivator Kit, win3.1	$369
Future Domain SCSI CD-ROM Kit	$69
Speakers Labtec cs150..Shielded	$18

COMMUNICATIONS

MODEMS / FAXES

2400 Modem/Fax Int. w/MNP5 sw [send fax]	$29
96/24 FAX/Mod DOS/Windows Internal	$49

ADTECH - Made in USA

96/24 Fax/Modem MNP5, V.42bis hardware	**$79**
14.4/14.4 Modem/Fax V.32bis & V.42bis	**$150**
Pocket/Notebook Fax/Modem 96/48/24	$84

THE COMPLETE PC

The Complete Communicator	$299
The Complete Communicator Gold	$389

AT&T Paradyne

DataPort 14.4 Fax V.32bis External	$249
DataPort 14.4 Fax V.32bis Internal...[205*]	$225

US ROBOTICS

9600 Sprtstr Modm V.32 V.42bis Int/Ext.	$146/152
9600 SprtstrModm/fax V.32 V.42bis In/Ex.	$159/168
14,4 Sportster Modem V.32bis V.42bis Int.	$155
14,4 Sportster Modem V.32bis V.42bis Ext.	$173
14,4 Sportster Mod/Fax V.32bis V.42bis Int.	$160
14,4 Sportster Mod/Fax V.32bis V.42bis Ext.	**$192**
14,4 sprstr **Mac** Mod/fax	$214
14,400 HST Courier Dual V.32bis	$759
Modem Sharing Kit V.32bis	$495
World Port PCMCIA 14,4 with Fax	$435
Dual Modem Sharing Kit	$889

INTEL

Satisfaction 100+Fax Int	$105
Satisfaction 200+Fax Int	$295
Satisfaction 400+Fax Int	$389
Satisfaction 400+Fax Ext	$409

NATIONAL SEMI-CONDUCTOR

TYIN2000 Fax, Mod, Answer M/C, Audio Play	$175

ZYXEL USA

U-1496E 16.8Ext, 14,4 S/R Fax, Voice, Win	$355
U-1496+ 19.2Ext, 14,4 S/R Fax, Voice, Win	$675
U-1496B 16.8Int, 14,4 S/R Fax, Voice, Win	$355
U-1496B+ 19.2Int, 14,4 S/R Fax, Voice, Win	$460
U-1496E+ 19.2Ext, 14,4 S/R Fax, Voice, **Mac**	$495
U-1496+ 19.2Ext, 14,4 S/R Fax, Voice, **Mac**	$675

NETWORKING

ETHERNET Adapters

NE 2000 Comp 16bit Coax/10BT	$49/64
NE2000 Comp 5 Pack	$235
D-Link 16 Bit 10 BaseT 1/6 Pack	$74/429
Intel EtherExpress 16 Coax/TP	$129/129
Intel Etherexpress 5 pack Coax/TP	$519
Intel EtherExpress 16 MCA/16 MCATP	$179
Intel EtherExpress 32 EISA Coax	$424
Intel EtherExpress Flash/C	$145
SMC Ethercard 16 Ultra Coax/6 Pk	$109/574
SMC Ethercard PlusIA for MCA/TP	$179
SMC Ethercard Plus Elite 16 CoaX/TP	$119/95
SMC Ethercard Plus Elite Coax/TP 6 Pk	630
3 Com 503 16 bit Coax/10BT Bulk	$129/134
3 Com 503 Etherlink II 16 Bit COAX/TP	$169/175
3 Com 507 Etherlink II 16 Bit Coax/TP	$279/299
3 Com 509 Etherlink III Coax/5Pk	$135/615
3 Com 509 Etherlink III 10 BT/5 Pk	$141/615
3Com 529 Etherlink III for MCA Coax/10BT	$239
3 Com 579 EISA Coax/10 BT	$239
NE 2000 Plus Combo/5 Pk	$136/582
NE2000 Foyle Coax EISA	$725
Asante Etherpack Coax/10 BT	$189

TOKEN RING

Intel Token Express 16/4-16 Bit ISA/MCA	$429/469
SMC Token Ring Adapter 16/4-16 Bit	$345
3Com Tokenlink III 16/4-16 Bit ISA/EISA	$455/635
IBM Token Ring Adap II	$289
5 Pack and 20 Packs are available	

POCKET LAN ADAPTERS

Advanced LAN Net Coax/10 AT	$145/155
X/R Com Pocket Adapter III Coax/10BT	$274/279
Pocket ENET III Combo	$325
Pocket Token Ring Type 1/3 16MB PS	$559

ARTISOFT

AE-2/3 Lantastic Kit	$445/525
AE-2/3 Lant Kit for Win	$499/575
AE-2/3 16 bitAdapter	$195/231
Z-2 Lite Kit 2 Stations	$94

PCMCIA ADAPTERS

IBM/Thomas Conrad/XIR Com Available.....

ARCNET

16 Bit Star Combo	$64
16 Bit Bus Combo	$74
4 Port Arcnet Passive Hub	$15
8 Port Coax Stackable Active Hub	$139

CONCENTRATORS/ MAUs/HUBS w/SNMP

Allied Telesis 8 Port/12 Port	$309/519
Asante 8 Port Concentrator/12 Ports	$239/474
Asante 1012 12 Port Hub	$835
Asante 1701 Smart Hub 12 Ports/SNMP	$965
D-Link 12 Port 10 BaseT	$495
D-link DE-1500 w/SNMP	$875
D-link K1032 32Port w/SNMP	$1199
David Sys. ExpressNet 12 Port w/SNMP	$2545
Intel EE 12 Port 10BT Hub Int w/Harmonica	$634
Intel EE 12 Port Hub Int EISA w/Harmonica	$699
Intel 12 Port Hub Expansion Board int	$509
SMC 8 Port Concentrator/12 Ports TP	$325/599
Synoptics 2800 A 16 Port w/AVI	$699
Synoptics 2803 16 Port w/AVI	$749
PowerChute Plus for Novell	$72
UPS Monitoring Board - Novell	$69
Synoptics 2804 16 Port w/Fiber Optics	$951
3 Com Link Builder 3C621 12 Port	$729
3 Com Link Builder TR 3C510180/82	$1751/3599

REPEATERS

Allied Telesis 10BT 4 Port MR 410T/420T	$345/299

BRIDGES

Allied Telesis local Ethernet Bridge	$1645
3 Com 802C NetBuilder local think Ethernet	$3399
Com750 NetBuilder Token Ring local	$4714
3 Com 5823C Net Builder Remote (Thick/ Thin)	$5319
Synoptics 3323S Ether Local w/AVI	$2353
Synoptics 3522 Token Ring	$5319
Novell Multiprotocol Router v 2.0	$669

NETWORKING

NOVELL NETWARE

Ver 2.2 5/10 User	$455/1050
Ver 3.11 5/10/20/50 User	$570/1259/1710/2520
Ver 3.11 100/250 User	$3465/6185
NEW RELEASE VERSION 4.0	
Ver4.0 5/10 User	**$884/2010**
Ver4.0 25/50 User	**$2999/3999**
Ver4.0 100/250 User	**$5599/9999**
Ver4 .0 500/1000 Us	**$16400/29999**
	upgrades available
NOVELL-LITE	$69
WINDOWS FOR WORKGROUP	
..ADD-ON STARTER KIT	375
..ADD-ON USER KIT	$189
..ONLY SOFTWARE	$68

NETWORK HARDWARE

ETHERNET RG58 CABLES	
Readymade w/Connectors 10'/25'/50'	$4/8/12
Bulk 1000' SPOOL	$89
Terminators / All Conn	$1.50

PRINTER NETWORKING

Intel Netport II Coax /10BT	$499
Intel Netport II for Token Ring	$725
PC Based Print Server 1 MB	$199
PC Based Print Server 2MB	$269

PRINTER SHARING

AUTO SWITCHES

2 Computers to 1 printer Electronics	$24
4 Computers to 1 printer Electronics	$40
2 Computers to 1 Printer Bi-directional	$45
4 Computers to 1 Printer Bi-directional	$61
2/4 Auto-switches Uni-directional	$25 / 39

ADVANCED SHARING

PrinterLink Par Line Extender Centr(w/50' Cab)	$69
PrinterLink Par Line Extender DB-25(w/50' Cab)	$69
ModularLink Printer Net Transmitter DB-25(w/25'C)	$40
ModularLink Printer Network Receiver Centr0	$48
ModularLink Printer Network Starter Kit	$106
PrinterNET Printer Net Transmitter DB-25(w/25'C)	$69
PrinterNET Printer Net Transmitter Centronics (w/25'C)	$69
PrinterNET Printer Net Transmitter Centronics (w/25'C)	$163

E-MAIL- SOLUTIONS

CC: Mail DOS v. 4.2	$199
CC:Mial Win V. 2.0	$325
CC: Mail UNIX/OS2 Platform	$639/339
CC:Mial Macintosh Platform	$335
CC:Mail 10-user/25-user/100 user Pk	$229/549/2097
CC:Mail Gateway v. 3.21	$845
CC:mail Remote/Router v. 4.0	$195/849

PEER-TO-PEER NETWORKS

ASA 2 station starter kit

Includes:

2 copies of Novell lite/lantastic DOS v 5.0
2 NE 2000C 16bit Ethernet 10BT/COAX Cards
2 50 OHM Terminators
1 25 FT Cable.......$249

MICROSOFT

Windows for WorkGroup

Add-on for Windows 3.1 soft only	$69
Add-on User kit 1 user w/Win 3.1	$145
Add-on starter kit 2 user	$275
Add-on for Windows 3.1 soft only (5 user)	$265

ASA Computers, Inc

ONE YEAR WARRANTY

AMT INTERNATIONAL

LOWEST PRICES
SAME DAY
SHIPPING

2393 QUME DRIVE, SAN JOSE, CA 95131
(408) 432-1790 (408) 383-9044 FAX (408) 383-9047

386DX-40 AMD $980
486DLC-33 Cyrix $985
486SX-25 Intel $1045

- 128K Cache
- AMI BIOS
- 4 MB RAM-70ns
- 1.44 MB Teac Floppy Drive
- Conner 80 MB IDE Hard Drive
- IDE I/O 2FD/2HD, 2S/1P/1G Ports
- 512K SVGA Card
- 14" SVGA Monitor .28dp
- Chicony Keyboard 101 Key
- Mini/Desktop Case w/230W Power Supply

486DX-33 Intel $1260
486DX-50 Intel $1389
486DX2-66 Intel $1469

- 128K Cache
- AMI BIOS
- 4 MB RAM-70ns
- 1.2 MB Teac Floppy Drive
- 1.44 MB Teac Floppy Drive
- 120 MB IDE Hard Drive
- IDE I/O 2FD/2HD, 2S/1P/1G Ports
- 512K SVGA Card
- 14" SVGA Monitor .28dp
- Chicony Keyboard 101 Key
- Mini/Desktop Case w/230W Power Supply

486DX-33 Intel $1469
486DX-50 Intel $1639
486DX2-66 Intel $1675

- VESA LOCAL BUS Motherboard w/128K Cache, 2 VESA Slots
- AMI BIOS
- 4 MB RAM-70ns
- 1.2 MB Teac Floppy Drive
- 1.44 MB Teac Floppy Drive
- 213 MB IDE Hard Drive
- IDE I/O 2FD/2HD, 2S/1P/1G Ports
- VESA Local Bus Cirrus Logic Video Card w/1 MB
- 14" SVGA Monitor .28dp
- Maxi Keyboard 101 Key
- Mini/Desktop Case w/230W Power Supply

486DX-33 Intel $1669
486DX-50 Intel $1820
486DX2-66 Intel $1920

- ORCHID Motherboard w/256K Cache, 2 VESA Slots
- AMI BIOS
- 4 MB RAM-70ns
- 1.2 MB Teac Floppy Drive
- 1.44 MB Teac Floppy Drive
- Maxtor 213 MB IDE Hard Drive
- VESA Local Bus IDE, Orchid I/O Card
- VESA Local Bus Fahrenheit Video Card w/1 MB-Orchid/Diamond
- 14" SVGA Monitor .28dp
- Maxi Keyboard 101 Key
- Mini/Desktop Case w/230W Power Supply

MOTHERBOARDS

486-50 (EISA) 33/50 MHz	CALL
ISA	
486-50 Local Bus w/256K Cache w/CPU	$980
486DX-33/50/66, 128K Cache w/o CPU	105
486DX-33/50/66, 256K Cache w/o CPU	150
386DX-33/486DX AMD Upgradable w/CPU	195
386DX-40, 128K Cache w/o CPU	98
w/CPU	160
ALL-IN-ONE	
386SX-33 512K SVGA, IDE I/O	$165
486SX-33 0K, 512K SVGA, IDE I/O	170
386SX-33 w/CPU	120
386SX-25 w/CPU	99
VESA LOCAL BUS	
ORCHID Motherboard, 256K Cache w/o CPU	$205
ECS Motherboard, 128K Cache w/o CPU	145
HOT 128K Cache w/o CPU	115

VIDEO CARDS

VESA Video Cards	
Orchid Fahrenheit, 1 MB, S3	$170
Diamond Stealth, 1 MB, S3	165
Diamond Speedstar 1 MB	135
ATI Ultra Pro Graphics Pro 2 MB	365
Cirrus Logic, 1 MB	105
Orchid Viper	340
ISA Video Cards	
Orchid Fahrenheit, S3	$180
Diamond Star 24X	170
Trident 1 MB	54
Tseng Lab 1 MB	85
Trident 512K	40
Accumos 256K	29

MONITORS

14" SVGA 0.28	$240
14" SVGA VESA 0.28 NI	299
Non-Int SVGA 0.28	255
Sony 1304	579
ViewSonic 4/6/5E/7	295/399/395/1099
NEC 3FG/4FG/5FG	659/749/1359
Samsung 14" VGA (.31)	260
Samsung 14" SVGA (.28)	240
Samsung 15" SVGA (.28)	475
Samsung 17" SVGA (.31)	789
OTHERS	CALL

HARD DRIVES

CONNER	44 MB IDE	$128
	89 MB IDE	159
	130 MB IDE	170
	170 MB IDE	195
	210 MB IDE	230
	340 MB IDE	340
	520 MB IDE	789
MAXTOR	80 MB IDE	165
	130 MB IDE	175
	213 MB IDE	240
	340 MB IDE	345
	340 MB SCSI	545
	660 MB	CALL
QUANTUM	52 MB IDE	165
	120 MB IDE	210
	240 MB IDE	265
SEAGATE	105 MB IDE	205
	130 MB IDE	215
	200 MB IDE	345
CDC	91.5 MB SCSI	199
FUJITSU	540 MB IDE	CALL

FLOPPY DRIVES

1.2 MB Teac 5.25"	$53
1.44 MB Teac 3.5"	47
1.2 MB Samsung 5.25"	49
1.44 Samsung 3.5"	45

TAPE BACK-UPS

120 MB Colorado	$146
250 MB Colorado	195
500 MB Portable	CALL

NETWORK CARDS

Ethernet 8-Bit	$89
Ethernet 16-Bit	99
14 Port 10 BaseT Hub	539
Arcnet 8-Bit	49
Arcnet 16-Bit	59

Prices Subject To Change w/o Notice
Not Responsible For Typographical Errors

KEYBOARDS

NORTH GATE/OMNI.	CALL
Keytronics 101	38
Maxiswitch 101	32
Chicony 101	28
Focus 5001 w/Calculator	65
Mitsumi 101	Key30

MISCELLANEOUS

MS DOS 6.0	$44
MS DOS 5.0	40
Windows 3.1	45
6'/10' Printer Cable	5/9
Power Supply 150/220W	39/49
Monitor/Keyboard Ext Cable 10'	7
Printer Switch (AB/ABCD)	10/20
Sound Blaster Pro	189
Sound Blaster	105
CPU Fan	14

MICE

Logitech Serial.	$65
Logitech Scanman Model 32	149
Logitech Model 256 w/OCR	365
Microsoft Mouse	89
Logitech w/Windows 3.1	75
Serial Mouse w/Pad	14

ADD-ON CARDS

AT IDE I/O (2SPG, HD/FDC)	$20
AT I/O (2SP, 1PP)	13
Bustek EISA SCSI	345
Apatec 1542 SCSI	255
DTC IDE I/O	90
Winbound IDE I/O	57
IDE w/Cache	195
IDE 4FD/2HD	32
VESA IDE Controller	80
Orchid IDE & I/O VESA	70

COMPUTER CASES

Full Tower Case w/250W PS	$95
Mid Tower Case w/230W PS	79
Mini Tower Case w/200W PS.	60
Slim DeskTop Case w/200W PS	85

ONE YEAR WARRANTY

AMT INTERNATIONAL

LOWEST PRICES SAME DAY SHIPPING

VISA

2393 QUME DRIVE, SAN JOSE, CA 95131
(408) 432-1790 (408) 383-9044 FAX (408) 383-9047

QUANTITY PRICING FOR DEALERS & VARS, PLEASE CALL!!

MEMORY BOARDS FROM ACCULOGIC

•RAMpAT 16 BIT
Memory Up to 8 MB
80286, 80386SX, 80386
$85

•RAMpAT PLUS
Memory Up to 8 MB
For IBM PC, PC XT, PC/AT, PS/2
$125

•SIMMply-RAM FOR PS/2 16 BIT
Memory Up to 8 MB
For PS/2-50, 50Z, 60, 70, 80
$149

•SIMMply-RAM
Memory Up To 32 MB
For PS/2-70,80,90
$159

FAX/MODEMS

2400 bps MODEM (INT)	$40
9624 bps FAX/MODEM (INT)	55
9600 bps MODEM (INT)	239
9624 bps FAX MODEM	139
9624 bps POCKET MODEM	139
94/144 V.32/V.42 BPS	199

MEMORY UPGRADES- DUE TO THE RAPIDLY CHANGING PRICES CALL FOR THE LATEST PRICES!

SIMMS

IBM TYPE

1x9-60 3 Chip	CALL
1x9-70 3 Chip	CALL
1x9-80 3 Chip	CALL
1x9-80/70/60 9 chip	CALL
1x9-80/70 3 chip	CALL
4x8-60	CALL
4MB FX Apple	CALL
1MB FX Apple	CALL
16x9-70	CALL

MAC TYPE

1x8-100 8 Chip	CALL
1x8-80 2 Chip	CALL
1x8-70 2 Chip	CALL
1x8-80/70 8 Chip	CALL
2x8-80/70	CALL
4x8-80/70	CALL
16x8-80/70	CALL
Mac IIfx 4/16 MB Kit	CALL
256K VRAM	CALL
512K VRAM	CALL
16/32/64/128MB Kits for Quadra 700/900 & Mac IIfx, ci	CALL
NEW 72 PIN SIMM for MAC LCII & CENTRIS	CALL

72 PIN SIMMS (36 BIT)

256Kx36-10/80/70	CALL
512Kx36-80	CALL
512Kx36-70	CALL
1x36-80/70	CALL
1x36-60	CALL
2x36-80/70/60	CALL
4x36-80/70	CALL
8x36-70 NEW	CALL

32 BIT SIMMS ALSO AVAILABLE

DRAMS

DRAMS

256x1-80	CALL
256x1-100	CALL
256x1-120	CALL
256x4-70/80	CALL
64x4-80/100	CALL
1x4-80 DIPP	CALL
1MBx1-70	CALL
1MBx1-80	CALL
SOJ	CALL

ZIPPS

64x4-10/12 Page, 18pin	$4.50
256x4-80/70 Page, 20pin	5
256x4 Video Page 28pin	8
256x4 Video 28pin	10
1x4-80/70 Page 20pin	17
1x4-80/70 Page 20pin DIPP	20

CACHE MEMORY

32Kx8-20	$4.95
32Kx8-15	5.00
64x4-20	6.00
64x4-15	9.50
8Kx8-20	2.75
8Kx8-15	3.00
16Kx4-20	2.75
16Kx4-15	3.00
64x1-20	5.75
64x1-15	5.50
128x8-2	38
128x8-25	32

MATH CO's

INTEL/CYRIX/ULSI

287-10	$28/29
8087-1/2/3	79/69/29
287XL Intel Tube	39
387SL Intel Tube	65
387SX-16/20	45/64
387SX-25 Cyrix	59
387SX-33 ULSI	59
387DX-20 Intel Tube Box	34
387DX-25 Intel	39
387DX-33 Intel Tube	59
387DX-40 Cyrix/IIT	69
4167-25/33 Weitek	325/565

CALL FOR PRICING ON IIT, ULSI & WEITEK

LASER PRINTER MEMORY

Price includes Memory, Board & Installation Instructions

IBM LASER

4019/4019E 1/2/3.5 MB	$89/119/179
4029 (All Model) 4 MB	169

EPSON LASER

6000-2/4MB	$114/175
7000-2/3 MB	125/179
Action LaserII-2/3/4/5 MB	108/139/169/199

HP LASER

HPII/IID 2/4 MB Board	$105/179
HP 4/4M 4/8MB	149/289
HP IIP,IIP+,III,IIID,IIIP 1/2/3/4	60/95/134/179
IIsi 4/8 MB	138/299
LaserJet Fax 1 MB	82
DeskJet 500/500c 550C 256K	69
Design Jet Plotter 4 MB	144

PANASONIC LASER

KXP4410/KXP4430 1/2/3/4 MB	$89/115/149/184
KXP4420/4450/4451 1/2/3/4 MB	79/108/139/179
KXP4450 1 MB	111
KXP4455 2 MB	129

OKI LASER

OL400 1/2 MB Board	$84/106
OL800/820 2/4 MB Board	107/179
OL810 2/3/4 MB Board	145/179/219

QMS LASER

PS 410 2/3/4 MB	$119/165/189
PS 860, 1700 1/4/8 MB	53/133/166
PS 815, 825, 815MR, 2/4/6	168/232/295

SHARP LASER

9500PS 1 MB	$55
JX-9500/9700 1/1.5/2.5/4	105/135/188/344

OTHERS

Apple Laserwriter II/IINT/IINTX 4 MB	$169
Brother HL-4 2/3/4 MB	119/165/189
Brother HL-8E V 1/2 MB	99/139
Compaq Pagemarq 15 & 20 1/4/8	49/139/266
Fujitsu RX7100/7200 1/2 MB	185/245
Kyocera F800, F800Am F800T 2/4	95/137
NEC Silentwriter 90/290	99/124
NEC Silentwriter 95 2 MB	104
TI Microlaser 1 MB	55

DELL MEMORY

Model		P/N	
433P,33P,325P,33D,325D			
	1 MB	310-2505	$44
	4 MB	310-2507	155
433TE, 425TE & Powerline Workstation			
	2 MB	310-2466	109
	4 MB	310-2467	175
	8 MB	310-2468	319
	16 MB	310-2469	649
Power Desktop 486D, D/33, D/25, D/20, D/66			
	1 MB	310-2505	$44
	4 MB	310-2507	155
	16 MB	310-2625	595
OTHER MODELS			CALL

CPU CHIPS

Cyrix 486DLC 25/33/40	$65/79/110
INTEL 486DX-33/50/2-50/2-66	265/410/370/470
INTEL 486SX-20/25/33	85/95/170

TEAC FLOPPY DRIVES

1.44 MB	$55
1.2 MB	$57
Dual Floppy 1.2/1.44	145
Heat Sink w/Fan For 486's	25

COMPAQ MEMORY

Model		P/N	
LTE 286	2 MB	117081-002	$115
	4 MB	117081-003	175
SLT 286	4 MB	110237-001	299
LTE 386S/20	2 MB	12125-001	119
	4 MB	121125-002	195
Contura Lite 20/25			
	2 MB	129769-001	105
	4 MB	129769-002	155
	8 MB	129769-003	295
Portable 386	1 MB	107651-001	109
	4 MB	107653-001	299
Portable III	2 MB	10-7332-001	79
	EBD	167811-001	199
SLT 386	2 MB	118304-001	119
	4 MB	118305-001	185
Deskpro 386S (E. Board)			
	4 MB	11364-001	239
	4 MB	112534-001	169
Deskpro 386/33L, 486/33L, 50/25			
	2 MB	115144-001	99
	8 MB	116561-001	335
	32 MB	116568-001	1275
	6 Socket E Board		CALL
Deskpro 386/20e, 25e (E. Board)			
	4 MB	113645-001	99
	8 MB	116561-001	335
	32 MB	116568-001	1275
Deskpro 386/20e, 25e (E. Board)			
	4 MB	113645-001	239
Deskpro 386/20,20e,25e			
	4 MB	113132-001	169
Deskpro 286N, 386N, 386SX/20, 386/25M, 486/33M, 486S/25M, 486S/16M			
	2 MB	118689-001	95
	4 MB	118690-001	145
	8 MB	128877-001	294
Deskpro 486/33L, 486/50L, 386/33L			CALL
Prolinea 3/255 & 3/252S			
	2 MB	141738-001	105
	8 MB	141742-001	375
Prolinea 4/33	2 MB	141682-001	95
	4 MB	141684-001	159
	8 MB	141685-001	299
Other Models			CALL

TOSHIBA MEMORY

T8500, T5200	2 MB	105/335
T5100, T3100, T1600	2 MB	84
T3100SX	2/4 MB	105/157
T3200SX, SXC	2/4 MB	99/157
T4400SX, SXC, T6400	2/4 MB	135/219
	8/16 MB	157/249
T3300SL	1/2 MB	99/129
T3100	2 MB	109
T2200SX, SXE, T1000LE	2/4/8MB	105/157/279
T1800 Satelite	2/4/8 MB	109/159/279

NEC MEMORY

Prospeed 286, 386SX/16	1/2/4 MB	$99/165/229
Prospeed 386	2/4 MB	165/419
Prospeed SX/20	1/4 MB	105/229
Powermate 386/25S	2/8MB	129/359
Powermate 486/25E, 486/33I	2/8 MB	85/345
Powermate Express Series	1/4/16 MB	69/169/595
Other Models		CALL

LIFETIME WARRANTY

Altima LSX	2/4 MB	165/249
Avanti	2/4 MB	74/145
AST Premium Exec	1/4 MB	75/134
AST Power Exec 3/25	4/8/16 MB	CALL
Compaq Contura Lite 20/25	2/4/8 MB	105/155/295
Chaplet Notebook	2/4 MB	155/249
Chicony 386SX	4 MB	189
Chicony 386SL/25	2/4 MB	129/229
DECPC 320P	2/4/6 MB	195/269/389
DELL 320N &212N	1/2 MB	85/125
DELL 320N, NC	2 MB	125
DELL 325N, NC	2 MB	179
DELL NL25, NL20	2 MB	179
Epson NBS3	1/4 MB	98/225
Everex Tempo LX	2 MB	88
HP 95LX	1/2 MB	159/279
IBM L40SX, N33/SX	2/4/8 MB	99/155/299
IBM N51SX & SLC	1/4/8 MB	99/155/299
IBM PS/2 N45 Sl	2 MB	179
MAC PB 160, 180	6/10 MB	249/425
MAC PB 140, 170	2/4/6 MB	89/175/229
MAC PB 100	2/4/6 MB	89/179/239
Magnavox Metalis 386SX	4 MB	199
NEC Ultralite 286F	1/4 MB	99/199
Packard Bell 386SX	1/4 MB	99/229
Panasonic CF 170/270/370	1/2 MB	65/99
Sharp PC 8501	2 MB	105
Sharp 678/6881	2 MB	129
Sampo NB SX/26, SX/25	2/4 MB	145/225
TI Travelmate 2000	1 MB	77
TI Travelmate 3000	2 MB	69
TI Travelmate 4000	4 MB	219
Zenith Turbosport 386 E	1/4 MB	95/299
Zenith Supersport SX	2 MB	145
Zenith Mastersport	2 MB	99

IBM PS/2 & PS/1 MEMORY

PS/1 286/386SX	2/4 MB	$95/149
PS/1 Consultant		
Essential/Expert	1/2/4/8 MB	45/79/155/299
386 Valuepoint	2/4/8 MB	89/159/305
486 Valuepoint	4/16 MB	169/595
PS/2 30-286	2 MB	89
50Z, 55SX, 65SX, 70	2/4 MB	79/145
40SX, 35SX,35SL	2/4 MB	79/149
70A21, A61, 121	2 MB	109
80-11, 121, 311	4 MB	210
95,90,P75, PS/1 Pro	2/4/8 MB	110/149/305
16 Bit Exp Bd For 50, 50Z, 60, 65SX	0K	144
32 Bit Exp Board for all 70 & 80 models	0K	164
RISC 6000	16/32/64 MB	745/1490/2890
Other Models		CALL

AST MEMORY

Bravo 3/33(LC) 325S	2/8 MB	$84/299
Bravo 486/25 & 4/33	2/8 MB	109/309
Bravo 486LC	4/8/16 MB	145/295/565
Cupid-32 Board	0K	219
Premium 386C	4 MB	145
Premium SE 450	4 MB	145
Premium 386/25, SX,33,486/25	1 MB	40
Premium II 386, 486	1/4 MB	37/145
Executive Notebook	4 MB	134
Other Models		CALL

SUN MEMORY

SPARC SLC	4 MB	$145
3/60, 80, 4/40, 60, 65	4/16 MB	139/495
SPARC 1 &1+, 1Pc	4/16 MB	140/499
SPARC 10	16/64 MB	645/CALL
SUN Classic	16 MB	625
SPARC Server 630np	64 MB	2285
SUN IPX, ELC	4/16 MB	175/555
SPARC II	16 MB	560
Other Models		CALL

TERMS AND CONDITIONS

1. AMT Will Meet Or Beat Any Advertised Price!
2. Full Five Year Warranty With All AMT Upgrades!
3. Gov't, University And Qualified Firms PO'S Welcome
4. U.S. and International Shipping VIA UPS, DHL and Federal Express
5. All Sales Must Include Sales Tax
6. All Sales Must Be C.O.D. Cashier/Certified Checks
7. There Is A 15% restocking Charge For All Refused Merchandise
8. Prices Subject To Change W/O Notice, Not Responsible For Typo's

HOURS: MON-FRI 8am-6pm

WHY BUY FROM ANYONE ELSE...WHEN YOU CAN BUY FROM THE BEST—

UNIVERSAL COMPUTER PRODUCTS

FREE
mouse pad with
mouse purchase

1 YEAR PARTS/
1 YEAR LABOR
WARRANTY
ON ALL
SYSTEMS

486 Computer System

- 4MB RAM
- 1.2MB & 1.44MB Floppy Drives
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Keyboard
- 200MB IDE Hard Drive
- SVGA Card w/1MB
- 14" SVGA Monitor (.28 dp)
- Mid-Tower Case
- MS-DOS 6.0

DX-33	$1385
DX-50	$1535
DX2-66	$1590

386 Computer System

- 4MB RAM
- 1.2MB & 1.44MB Floppy Drives
- 2 Serial, 1 Parallel, 1 Game Port
- 101 Keyboard
- 120MB IDE Hard Drive
- SVGA Card
- 14" SVGA Monitor
- Mini-Tower or Desktop Case
- MS-DOS 6.0

DX-33 or DX-40
$1125

SX-25 or SX-33
$1050

REPAIR & UPGRADE SERVICES

ON IBM & IBM COMPATIBLES

- Full Service
- No Appointment Necessary
- Same Day Turnaround
- Competitive Rates
- Experienced Technician For Over 7 Years
- Courteous Service

ADD ON BOARDS

AT I/O Card 2S,1P,1G	$20
Mono Graphic/Printer	$20
Color Graphic/Printer	$35
XT Hard Disk Cont	$50
MFM 1:1 HD/FD Cont	$79
IDE Dual HD/FD Cont	$20
SCSI 1:1 HD/FD Cont	$99
DTC 7287 RLL Cont	$80
Orchid Pro Designer w/1MB	$180
Paradise VGA Card	$70
VGA Card w/256K	$40
Oak VGA Card w/512K	$58
Trident SVGA w/1MB	$70
Everex RAM 3000 Expansion Card	$90
Everex RAM 10K Expansion Card	$150

CASES AND POWER SUPPLY

Baby AT w/200W Power	$70
Baby Tower w/200W Power	$70
Mid Tower w/220W Power	$110
Full Tower w/250W Power	$160
200W (XT) Power Supply	$60
200W Power Supply	$60
230W Power Supply	$60

DRIVES

Frame for 3.5" Hard & Floppy Drive	$5
CONNER	
CP-3000 40MB IDE	$160
CP-30174 170MB IDE	$220
CP-30254 250MB IDE	$320
CP-30104 120MB 19ms IDE	$190
CP-30204 200MB 16ms IDE	$299
MAXTOR	
LXT-7080A 80MB 19ms IDE	$179
LXT-7120A 130MB 15ms IDE	$210
LXT-213A 212MB 16ms IDE	$300
LXT-7245A 245MB IDE	$299
LXT-7345A 345MB IDE	$375
TEAC	
360K 5.25"	$60
720K 3.5"	$60
1.2MB 5.25"	$56
1.44MB 3.5"	$56

INTEL MATH CO-PROCESSORS

387 SX-16	$115
387DX-20	$99
387 DX-25	$99
387 DX-33	$99

MEMORY CHIPS

DRAM	
1MBx1-8	$4.50
256K-8/10	$1.25
256Kx4-8	$4.50
64K-10	$1
SIMM	
4MB x9-7	CALL
1MBx9-7/8	CALL
1MBx3-7/8	CALL
SIPP	
1MBx9-8	CALL
256Kx9-8	CALL

MODEMS

Everex 2400 Baud Internal	$75
Everex 2400 Baud Int. w/MNP5	$150
Everex 2400 Baud External	$175
Everex 2400 Baud Ext. w/MNP5	$195
US ROBOTIC 9600 Baud Internal	$199
US ROBOTIC 9600 Baud External	$219
US ROBOTIC 14,400 Int. Fax Modem	$195
US ROBOTIC 14,400 Ext. Fax Modem	$229
US ROBOTIC 14,400 Int. Modem	$169
US ROBOTIC 14,400 Ext. Modem	$199

MONITORS

14" Monochrome	$105
SVGA Monitor 1024x768 .28dp	$275
SVGA Monitor 1024x768 .39dp	$240
Viewsonic 6	$345
Viewsonic 7	$Call
Relisys 14" SVGA Non-Int.	$310
ST 14" SVGA Non-Int. (428-VESA)	$330

CD-ROM

Creative Lab Discovery CD16	$485
Creative Lab Discovery CD8	$415
Internal CD ROM Drive	$200
Sound Blaster Card (8-Bit)	$79
Sound Blaster Pro (16-Bit)	$179

MOTHERBOARDS

386 SX 25MHz Motherboard	$120
386 DX 33MHz Motherboard	$180
386 DX 40MHz Motherboard	$195
486 DX2 66MHz Motherboard	$CALL
486 DX 33MHz Local Bus MB	$CALL
486 DX 33MHz Motherboard	$450
486 DX 50MHz Motherboard	$Call

PRINTERS

Citizen 190GX (9 Pin)	$175
Citizen GSX230 (24 Pin)	$249
Citizen GSX240 (24 Pin)	$299
Citizen Color Upgrade Kit	$49
Panasonic 2180 (9 Pin)	$189
Panasonic 2123 (24 Pin)	$245
Panasonic 2124 (24 Pin)	$319
Panasonic 4410 Laser	$629
Panasonic 4450 Laser	$Call
Toner KX-P450	$37
Toner KX-P453	$35.95
Toner KX-P451	$39.95
HP 51604A	$11.95
HP 51608A	$19.95
HP 92261A	$11.95
HP 92275A	$69
HP 92295A	$83
HP 92298A	$109.95

TAPE BACKUP

Colorado 120MB/250MB	$160/230
External Kit for Colorado Drive	$110

MOUSES

Logitech Trackball	$85
Logitech Serial Mouseman	$70
Microsoft Bus Mouse	$90
Microsoft Serial Mouse	$85
DEXXA Mouse w/Windows 3.1	$75
DEXXA Mouse	$27
Mouse Systems A3 Mouse for Mac	$50
Mouse Systems A3 Trackball for Mac	$50

PRINTER RIBBONS & DATA CARTRIDGES ARE AVAILABLE
COAX & TWISTED CABLES ARE AVAILABLE

UNIVERSAL COMPUTER PRODUCTS

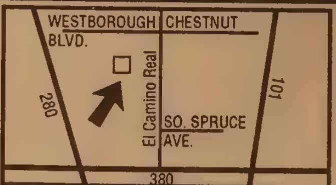
951 El Camino Real, South San Francisco, CA 94080
(415) 583-9736 Fax (415) 583-3457
Mon.-Fri.: 9am-6pm Sat: 10am-5pm

VISA

MasterCard

DISCOVER

Prices subject to change w/o notice • Not responsible for misprints



(Inside Fairway Plaza)

ART COMPUTER TECH INC.

424 S.MAIN STREET., MILPITAS, CA
Tel. (408) 946-7852 * Fax (408) 946-7892

Make us your last stop,We offer the best price.

Be Smart! Join our satisfied customers

AMD, ADAPTEC, CIRRUS LOGIC, UC DAVIS, CONDUCTUS, ASTEC, ELANTEC, SEAGATE, STANFORD UNIVERSITY, UC BERKELEY, LAWRENCE LIVERMORE LAB, ANALOG DEVICES, FRANK & RIVERMAN CPA, ACUSON, MADERA CITY POLICE DEPT, NASA, ALLIED ENGINEER, TESTERION, ACSYS, LOGITECH and many more

SYSTEM	MB + CPU	Basic System	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
486DX2-66/128K VLB	$572	$729	$1342	$1360	$1442	$1525	$1429	$1447	$1489	$1572	$1522	$1587
486DX-50/128K VLB	$509	$666	$1280	$1298	$1379	$1463	$1367	$1385	$1426	$1509	$1460	$1525
486DX-33/128K VLB	$373	$530	$1144	$1161	$1243	$1326	$1231	$1248	$1290	$1373	$1324	$1388
486DX2-66/128K ISA	$557	$714	$1328	$1346	$1427	$1510	$1415	$1432	$1474	$1557	N/A	N/A
486DX-50/128K ISA	$495	$652	$1265	$1283	$1365	$1448	$1352	$1370	$1412	$1495	N/A	N/A
486DX-33/128K ISA	$358	$515	$1129	$1147	$1229	$1312	$1216	$1234	$1275	$1359	N/A	N/A
486SLC2-66/64K VLB	$343	$505	$1119	$1136	$1218	$1301	$1206	$1223	$1265	$1348	$1299	$1363
486SLC2-50/64K VLB	$293	$443	$1056	$1074	$1156	$1239	$1143	$1161	$1203	$1286	$1236	$1301
486DLC-40/64K ISA	$169	$326	$940	$958	$1039	$1122	$1027	$1044	$1086	$1169	N/A	N/A
486DLC-33/64K ISA	$134	$291	$905	$922	$1004	$1087	$991	$1009	$1051	$1134	N/A	N/A
486DX2-66/256K NICE EISA VESA	$705	$862	$1476	$1493	$1575	$1658	$1562	$1580	$1622	$1705	$1655	$1720
486DX-50/256K NICE EISA VESA	$642	$799	$1413	$1431	$1512	$1596	$1500	$1518	$1559	$1642	$1593	$1658
486DX-33/256K NICE EISA VESA	$506	$663	$1277	$1295	$1376	$1459	$1364	$1381	$1423	$1506	$1457	$1522
486DX2-66/256K ORCHID VLB	$616	$773	$1387	$1405	$1486	$1570	$1474	$1492	$1533	$1616	$1567	$1632
486DX-50/256K ORCHID VLB	$559	$716	$1330	$1348	$1429	$1512	$1417	$1434	$1476	$1559	$1510	$1575
486DX-33/256K ORCHID VLB	$418	$575	$1188	$1206	$1288	$1371	$1275	$1293	$1335	$1418	$1368	$1433
386DX-40/64K ISA	$121	$270	$887	$905	$987	$1071	$975	$993	$1035	$1119	N/A	N/A

BASIC SYSTEM Includes: Motherboard &CPU, 1MB RAM, 1:1 2HD/2FD controller, w/ 1P/2S/1G, 1.2 or 1.44 MB FD, enhanced case w/Power supply, 101 Keyboard.

NEW HARD DRIVES

80mb/18ms (IDE)- Conner CP30084E	146
120mb (IDE) Conner CP30104	160
130mb/15ms (IDE) Maxtor 7120AT	180
170mb/16ms (IDE) Conner CP30124	176
213mb (IDE) Maxtor 2213AT	220
245mb/15ms (IDE) Maxtor	245
250mb/15ms (IDE) Conner	230
340mb/13ms (IDE) Maxtor LXT340AT	310
540mb/13ms (IDE) Maxtor	565
1.2 GB - 13ms (SCCI) Fujitsu	1090
1.7 GB - 13ms (SCCI) Maxtor	1130

MULTIMEDIA

SoundBlaster Pro 16 ASP	$195
Mitsumi CD ROM w/Card (350ms)	170
NEC CD ROM 84M (280ms)	420
SONY CD ROM 31A (490ms)	179
MultiMedia Power w/ CD ROM+	
SoundBlaster Pro+5 CD titles	379
Creative Lab Soundblaster	67
Creative Lab Soundblaster Pro	110
MEDIAVISION ProAudio Spectrum 16	160
MEDIAVISION ProAudio plus	150
TOSHIBA CDROM 3401 (200ms)	428
Texel CD ROM DM 3024N	358

PRINTERS

Panasonic KX-P1123/2023	$169/200
Panasonic KX-P1124i/1624	239/348
Panasonic KX-P2180/2123	164/218
Panasonic KX-P2124/2624	318/377
HP DeskJet 500/500C	315/405
HP DeskJet 550C/HP 4L	610/670
HP IIIP/HP IV/HP 4M	875/1348/1850

VIDEO CARDS

Trident VGA-521 (1024x768,16 bit)	$36
Trident 1MB (1024x768,16 bit)	56
Luminar 24BITS 16M colors	70
Diamond SpeedStar Pro ISA w/1MB	117
Diamond SpeedStar Pro VLB w/1MB	117
Diamond Stealth 24VESA Local bus w/1MB	164
Diamond Stealth Pro VRAM w/2MB	346
Diamond Viper VESA Localbus w/2MB	380
SPiDER 32VESA Local Bus w/1MB	94
SPiDER 32VLB Plus w/1MB	120
SPiDER BlackWidow VLB w/1MB	215
Orchid Farenheit 1280Plus w/1MB	135
Orchid Farenheit Localbus w/1MB	135
Orchid P9000 VESA Localbus w/3MB	330
Orchid Celsius	190
ATI Graphic Ultra plus w/2MB	230
ATI Graphic Ultra Pro w/2MB	340
ATI Graphic Ultra Pro VLB w/2MB	340
ATI Graphic Ultra w/mouse	160

MONITORS

Nanao F550iw (17",1280x1024,0.28)	$1,068
Nanao F340iw	664
NEC 3FGE/ 4FGE	583/684
NEC 5FGE/6FGE	1,100/2,297
MAG 15F (1280x1024,0.28)	520
MAG 17F (1280x1024,0.26)	938
SONY CPD 1304s/1430	518/568
SONY CPD 1604s (17")/1730	898/968
HITACHI CM-2095(20")/2187 (21")	1280/1880
Super VGA (1024x768) monitor 0.28	240
Super VGA Non-interlaced Monitor 0.28	260
Viewsonic 4E/5E/5+	269/358/458
Viewsonic 6E/7	300/869
Viewsonic 15/17/20	510/1055/1700

CONTROLLER CARDS

Orchid IDE VLB w/ IO	$59
IDE 4FD/2HD	35
Promise IDE cache controller DC 200	98
Promise VL Controller DC1430VL	155
VESA Localbus IDE	40
IO with 2s/1p/1g	12
Monochrome card	12
Adaptec SCSI 1522 w/Kit/1542C w/Kit	145/245
Adaptec 1542BK+/1742EISA	295/388

MISCELLANEOUS

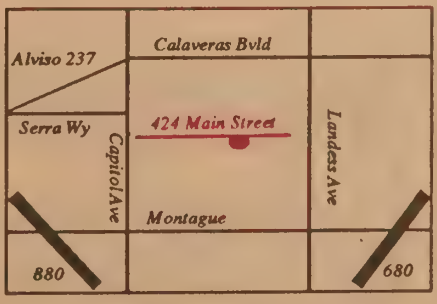
101 Enhanced keyboard	$20
Maxiswitch	30
Keytronics	34
Focus 2001/9000	36/60
Omnikey 102/Ultra	65/86

KEYBOARDS

Internal Modem 2400 Baud	$27
Fax Modem (9600 F, 2400 M)/Window	48
Fax Modem (14400 F, 14400 M)	140
3-Button mouse	10
Microsoft mouse serial/bus/new	43/65/50
Logitech Mouseman serial (4000dpi)	48
Logitech Mouseman Bus (4000dpi)	58
Colorado Tape backup DJ-10 120M	138
Colorado Tape backup DJ-20 250M	178
Colorado Trakker 120MB	288
Colorado Trakker 250MB	368
Baby AT/Mini Tower case w/230W PS	54
Medium Tower case 2/230W PS	86
Full Tower case w/230W PS	98
US Robotics Modem 9600/14,400	148/168
US Robotics Fax/Modem 14,400	178

* Prices & availability subject to change w/o notice.
* We accept VISA&Master Card
* Not responsible for typos.
* Prices based on cash prices.
* Government P.O accept
* Company term on credit approval

424 S Main Street
Milpitas, CA 95035.
Tel. (408) 946 -7852
Fax.(408) 946-7892
Bus Hrs: Mon-Fri : 9:30-6:00
Sat-Sun: 11:30-4:00



THE BEST PRICE IN TOWN!

$715

486DX2-66MHz w/64K Cache

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 64K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$655

486-50MHz w/64K Cache

Intel 80486-50MHz CPU

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 64K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

486-33MHz w/64K Cache

w/Intel 80486-33MHz CPU	$525
w/Cyrix CPU, Math Chip	$365

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- 64K External Cache Exp. to 256K
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

Optional for 486 Systems

VESA Local Bus	**Add $20**
Orchid VESA Local Bus Motherboard	**Add $80**
VESA SVGA Card w/1MB	**Add $85**
Orchid Fahrenheit VLB w/1M	**Add $140**
VESA IDE Card	**Add $30**

OPTIONAL:

w/system purchase

14" Mono Monitor & Card	$100
Super VGA Monitor (1024x768 0.39) w/SVGA Card 512K	$235
Super VGA Monitor (1024x768 0.28) w/SVGA Card 512K	$275
Non-Interlaced SVGA Monitor (1024x768 0.28) w/1M Card	$315

NOVELL.

Sales...
Custom Design Service...
Installation and Maintenance...
Extended Software Support...

Available through
STEPFORD
(415) 553-3837

MULTIMEDIA

SOUND CARDS

Sound Blaster Pro Deluxe $129

- 8 Bit Digital sampling & playback
- Includes Lemmings, Indianapolis 500, Multimedia Encyclopedia

Sound Blaster 16 ASP $229

- 16 Bit Stereo sampling & playback
- Includes HSC InterActive, PC Animal Plus, Multimedia Encyclopedia

Pro Audio Spectrum 16 .... $149

- True stereo sound
- Advance 20 voice stereo synthesizer
- MIDI Interface
- Software Includes: Pocket Recorder, MIDI Sequencer, Software controller mixer, TrakBlaster Pro, Monologue, Music & sound effect library, Windows Drivers

CD-ROMS

Mitsumi MPC CD-ROM $185

- AT Bus 350ms access time, 150KB transfer rate

SONY CDU31A $215

- AT Bus 430ms access time, 150KB transfer rate

Texel DM-3024N $360

- SCSI, 265ms access time

Toshiba XM-3401 .... $430

- SCSI w/200ms, 330KB transfer rate

CREATIVE LABS UPGRADE KITS

Edutainment CD 8 Bit $470

- Sound Blaster Pro Deluxe
- Speakers
- Creative CD-ROM
- 8 software included

Edutainment CD 16 Bit $530

- Sound Blaster 16
- Speakers
- CD-ROM
- 8 software included

Discovery CD 8 Bit $385

- Sound Blaster Pro Deluxe
- Speakers
- Creative CD-ROM
- 4 software included

Discovery CD 16 Bit $460

- Sound Blaster Pro Deluxe
- Speakers
- Creative CD-ROM
- 4 software included

BELMONT SYSTEMS INC.

(Belmont Computer Products)
1555 Industrial Road, San Carlos CA 94070

(415) 598-9058
FAX (415) 598-0186
Store Hours: M-F 9-6
Sat. 10-3

PRICE IS NOT ALL WE OFFER:

BEST QUALITY•STRONGEST SUPPORT STAFF•6 YEARS BUSINESS EXPERIENCE

$310

486SX-25MHz

- 1MB Expandable to 32MB on Board
- 8K Internal Cache
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

486SX-33MHz $380

$290

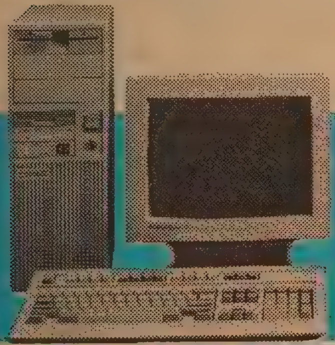
386-40MHz w/64K Cache

- 1MB Expandable to 32MB on Board
- 64K Static Cache Memory
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1:1 Interleave HD/FD Controller
- Socket for 80387
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard

$245

386SX-33MHz

- 1MB Expandable to 8MB on Board
- Shadow RAM
- 1.2 or 1.44MB Floppy Drive
- 1.1 Interleave HD/FD Controller
- Tower or Desktop case w/power supply
- 101 Enhanced Keyboard



44MB 28MS Hard Disk	$110
85MB 16MS	$155
125MB 16MS	$165
170MB 16MS	$185
212MB 16MS	$205
340MB 15MS	$300
510MB 12MS	$575

Keyboards

Mitsumi 101 Key	$39
Keytronic 101 Key	45
Maxiswitch 101 Key	45

Floppy Drives

TEAC/Epson 1.2MB	$55
TEAC/Epson 1.44MB 3.5"	55

Hard Disks

Conner 3000 40MB	$140
Western Digital 85MB	175
Conner 85MB	175
Conner 30104 120MB	190
Western Digital 125MB	190
Maxtor 7120A 130MB 15ms	195
Conner 170MB	220
Western Digital 210MB	235
Maxtor 210MB	235
Maxtor 340MB	335
Western Digital 340MB	335
Conner 3504 510MB 12ms	625
Fujitsu 512MB 12ms	650
Maxtor 1.2GB SCSI	950
Fujitsu 1.2GB SCSI	990

Modems

2400 Baud (Int)	$35
2400 Baud (Ext)	65
Fax Modem (9600 Fax, 2400 Modem)	55
14,400 Modem, 14,400 Fax	150

Interface Cards

Mono Graphic Card	$20
VGA Card (16 Bit 800x600)	30
OAK SVGA (1024x768 512K)	40
Trident VGA w/1M RAM	55
Orchid Fahrenheit (1280x1024) w/1MB VRAM	150
Orchid Fahrenheit VLB w/1MB	150
Diamond Stealth VLB w/1MB	150
ATI Ultra Pro w/2MB VRAM VLB	330
Orchid P9000 VLB w/3MB	385
Diamond Viper w/2MB	385
AT M I/O (2S,1P,1G)	25
IDE Card w/cable	25
Promise IDE VESA Cache Controller	170
Adaptec SCSI 1542C w/Kit	265
Adaptec 1742 EISA SCSI	375

Monitors

14" Flat Screen	$95
Super VGA (1024x768) .39	205
Super VGA (1024x768) .28	245
Non-Interlaced SVGA Monitor	260
Sony 1304S/1430	535/575
Sony 1604/1730	920/975
Viewsonic 6	310
Viewsonic 6FS	515
Viewsonic 7	870
Viewsonic 15	515
Viewsonic 17	1050
Viewsonic 8	1510
Nanao F550i 17" 1280x1024 .28	1050
NEC 3FGE/4FGE/5FGE	590/690/1090

Motherboards

386SX-33MHz	$115
386-40MHz 64K Cache	165
486SX-25MHz	195
486-33MHz w/64K Cache	395
486-50MHz w/64K Cache	535

Printers

Panasonic KX-P 1123 w/cable	**NEW** $195
Panasonic KX-P 1624 w/Cable	345
Panasonic 1124i w/Cable	285

Miscellaneous

387SX	$60
387-25/33/40	65/75/85
150W (XT) Power Supply	40
230W Power Supply	48
Logitech Mouse Man	65
Logi Trackman	75
Microsoft Serial/Bus Mouse (New Version)	85
DFI Mouse (3 Button, Microsoft Comp.)	15
Mini Vertical Case w/PS	55
Mid Mini Vertical Case w/PS	85
Full Vertical Case w/PS	110
Colorado 120MB Tape Backup	150
Colorado 250MB Tape Backup	180
16 Bit Ethernet Card	69
WD SMC Elite Ethernet 16 Bit	135
RAM DIP / SIPP/ SIMM	Call

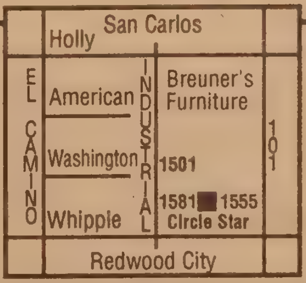
TERMS & CONDITIONS:

- Company, Government PO's Welcome
- UPS Shipping Daily

All Prices and contents subject to change w/o notice.
All brand names are registered trademarks.
Co. Term on credit approval.

Welcome to visit
our showroom!
Computers, Monitors and
printers are now
on display!
Prices Reflect Cash Discount

**Located in the
San Carlos Commerce
Center Office Park**



MICRO MARKETPLACE

AiM FOR THE BEST !

ORCHID

Authorized Peripheral Dealer

MICRONICS

Lifetime Labor and 1 Year Parts Warranty **

We Do Custom Systems Configuration & Upgrade

intel® 486- 25/33/50/66
32-Bit PCI Local Bus

- * Intel 486-25SX/33SX/33DX/50DX/66DX2 MHz
- * 32-Bit PCI & ISA Architecture MotherBoard w / 256KB Cache
- * 4MB DRAM Simm 70ns 72 pin (up to 128MB)
- * Maxtor 345MB 13ms SCSI Hard Drive
- * PCI Local Bus Graphic Card S3 w/1MB 1280x1024 Max. Resolution 16.8 Million Max. Color Display
- * TEAC 1.2MB Floppy Drive
- * TEAC 1.44MB Floppy Drive
- * KeyTronic 101+ Enhanced Keyboard
- * Microsoft Compatible Mouse w/ Pad
- * On Board PCI SCSI II Controller NCR Chip On Board 2HD IDE Controller On Board 2FD (Support 2.88MB) Controller
- * 2 Serials, 1 Parallel, & 1 Game Ports
- * Tower Case w/ 230 Watts Power Supply, LED
- * Dual Cooling Fans for 50MHz & 66MHz

Pentium Overdrive Upgradeable

$ 1649 / 1729 / 1849 / 1999 / 2079

SX25 / SX33 / DX33 / DX50 / DX2-66

(Monitor not included)

ORCHID 486- 25/33/50/66
32-Bit VESA Local Bus

- * Intel 486-25SX/33SX/33DX/50DX/66DX2 MHz
- * ORCHID NEW Superboard w/256KB Cache Support Bus Mastering
- * 4MB DRAM Simm 70ns (up to 32MB)
- * 340MB 13ms IDE Hard Drive
- * ORCHID Fahrenheit VLB w/1MB 1280x1024 Max. Resolution 16.8 Million Max. Color Display
- * TEAC 1.2MB Floppy Drive
- * TEAC 1.44MB Floppy Drive
- * KeyTronic 101+ Enhanced Keyboard
- * Microsoft Compatible Mouse w/ Pad
- * ORCHID VESA Local Bus IDE Controller 32-Bit 2HD/2FD VESA Local Bus Max. 8 MB/s data transfer rate
- * 2 Serials, 1 Parallel, & 1 Game Ports
- * Tower Case w/ 230 Watts Power Supply, LED
- * Dual Cooling Fans for 50MHz & 66MHz

ORCHID

$ 1199 / 1279 / 1399 / 1549 / 1639

SX25 / SX33 / DX33 / DX50 / DX2-66

(Monitor not included)

AiM 486-25/33/50/66 MHz
32-Bit VESA Local Bus

- *Intel 486-25SX/33SX/33DX/50DX/66DX2 MHz
- *128KB Cache Memory (up to 256 KB)
- *4MB DRAM Simm 70ns (up to 32MB)
- *213MB 15ms IDE Hard Drive
- *14" SVGA Non-Interlace 1024x768 0.28dp SVGA monitor
- *ORCHID Fahrenheit VLB W/1MB 1280x1024 & 16.8 Million Color
- *TEAC 1.2MB Floppy Drive
- *TEAC 1.44MB Floppy Drive
- *101 Enhanced Keyboard
- *Microsoft Compatible Mouse w/ Pad
- *VESA Local Bus 2HD/2FD IDE Controller w/ 2 Serials, 1 Parallel, & 1 Game Ports
- *Tower Case w/230 Watts Power Supply, LED
- *Dual Cooling Fans for 50MHz & 66MHz

Pentium Overdrive Upgradeable

$ 1259 / 1349 / 1469 / 1599 / 1689

SX25 / SX33 / DX33 / DX50 / DX2-66

intel®486-33/50/66 EISA
32-Bit EISA VESA Local

- *Intel 486-33DX / 50DX / 66DX2
- *AIR EISA VESA Local Bus w/256KB Cache 3 VLB Slot Support Bus Mastering
- *8MB DRAM 72 pin Simm 70ns (up to 128MB)
- *Diaond Stealth VLB 24 w/ 1MB S3 Chip 32-Bit VESA Local Bus 1280x1024 & 16.8 Million Color
- *TEAC 1.2MB Floppy Drive
- *TEAC 1.44MB Floppy Drive
- *KeyTronic 101+ Enhanced Keyboard
- *Microsoft Compatible Mouse w/ Pad
- *Maxtor 345MB 15ms SCSI Hard Drive
- *UltraStor 34F VESA Local Bus SCSI II Bus Mastering Controller
- *Full Tower Case w/250 Watts Power Supply, LED
- *Dual Cooling Fans for 50MHz & 66MHz

Pentium Overdrive Upgradeable

$ 2059 / 2199 / 2299

DX33 / DX50 / DX2-66

(Monitor not included)

IBM 486 SLC2 50/66
32-Bit VESA Local Bus
64KB Cache 170MB HD

- *IBM 486SLC2 50/66 MHz
- *LEOPARD 486SLC2 VLB Motherboard w/64KB Cache Memory (up to 128 KB)
- *4MB DRAM Simm 70ns (up to 32MB)
- *170MB 15ms IDE Hard Drive
- *14" 1024x768 0.28dp SVGA monitor
- *Genoa 8500VL VLB 1024X786 Graphic Card w/1MB & 16M Color
- *TEAC 1.2MB Floppy Drive
- *TEAC 1.44MB Floppy Drive
- *101 Enhanced Keyboard
- *Microsoft Compatible Mouse w/ Pad
- *2HD/2FD VLB IDE Controller w/2 Serials, 1 Parallel, 1 Game Ports
- *Tower Case w/230 Watts Power Supply
- *Dual Cooling Fans for 50MHz & 66MHz

$ 1369 / 1429

SLC2 50 / SLC2 66

486- 25 / 33 / 50 / 66 ISA
64KB Cache 130MB HD

- *Intel 486-25SX/33SX/33DX/50DX/66DX2
- *ISA Motherboard 128KB Cache Memory (up to 256 KB)
- *4MB DRAM Simm 70ns (up to 32MB)
- *130MB 15ms IDE Hard Drive
- *14" 1024x768 0.28dp SVGA monitor
- *Trident 8900CL SVGA 1024X786 Graphic Card w/1MB
- *TEAC 1.2MB Floppy Drive
- *TEAC 1.44MB Floppy Drive
- *101 Enhanced Keyboard
- *Microsoft Compatible Mouse w/ Pad
- *2HD/2FD IDE Controller w/2 Serials, 1 Parallel, 1 Game Ports
- *Tower Case w/230 Watts Power Supply
- *Dual Cooling Fans for 50MHz & 66MHz

$ 1049 / 1129 / 1249 / 1399 / 1479

SX25 / SX33 / DX33 / DX50 / DX2-66

386-33SX/33DX/40DX
SVGA 85MB HD

- *386-33SX/33DX/40DX
- *128KB Cache Memory (For 33DX/40DX only)
- *4MB Simm 70ns (For 33DX/40DX only) OR 2MB Simm 70ns (For 25SX/25DX)
- *85 MB IDE Hard Drive
- *14" 1024x768 0.39dp SVGA Color Monitor
- *Trident 9000 1024x768 w/512KB SVGA
- *1.2MB **OR** 1.44MB Floppy Drive
- *101 Enhanced Keyboard
- *Microsoft Compatible Mouse w/ Pad
- *2HD/2FD IDE Controller w/ 2 Serials, 1 Parallel, & 1 Game Port
- *Mini Tower Case w/ 230 Watts Power Supply

$ 749 / 869 / 869

SX33 / DX33 / DX40

Miscellaneous

Motherboards (386, 486, EISA, Local Bus)	Call
CPUs (Intel/AMD/Cyrix 386, 486)	Call
MathCoprocessor 387/487 (Intel/AMD/ULSI/Cyrix ...)	Call
SIMM Memory Chips (256KB, 1MB, 4MB, 16MB)	Call
SIPP, DIP Memory Chips (256KB, 1MB, 4MB, 16MB)	Call
Hard Drives (IDE, SCSI): Quantum, Conner, Maxtor, Seagate, Western Digital, Teac, Toshiba, Fujitsu, ...	Call
VESA IDE I/O 32-Bit Controller 2HD, 2FD, 2S, 1P, 1G	$55
Logitech Serial/Bus MouseMan & TrackMan 2	$49*$65/$75
Logitech MouseMan Cordless	$95
Logitech Scanman 256 w/OCR 400DPI	$279
Microsoft serial mouse	$49*/$69
KeyTronic 101+ enhanced Keyboard	$38
Maxiswitch 124 Programmable keyboard	$69
Northgate Omni 101/102 enhanced keyboard	$75
Northgate Omni Ultra 118 key enhanced keyboard	$95
DSI 14.4K/14.4K FaxModem WinFax+DosFaxInt/Ext	$159/189
Zoltrix 2.4/9.6K Fax Modem w/MNP5, BitFax for Win	$55
TEAC 1.2MB/1.44MB Floppy Drive	$54/47
TEAC Combo Floppy Drive	$119
PRINTERS (Apple,HP,Panasonic,Citizen,Epson,QMS......)	Call
Printer Memory Upgrade (HP,Panasonic,........	Call
Creative LabsDiscovery CD Upgrade Kit(8-Bit/16-Bit)	$389449
Edutainment CD Upgrade Kit (8-Bit/16-Bit)	$469/499
SoundBlaster ASP 16/SoundBlaster Pro Deluxe	$205/125
Video Blaster	$339
Media Vision FUSION CD 16 Mutlimedia (Int/Ext)	$479/$509
Pro 16 Multimedia System	$879
Pro Audio Spertrum 16 / Pro Audio Studio 16	$159/209
Logitech Soundman 16	$159
Mitsumi Internal CD-ROM w/16-Bit Controller 350ms	$179
NEC CDR 84-1 Internal CD-ROM SCSI II 280ms 300K	$469
Sony Internal 31A CD-ROM w/Controller Caddyless	$199
TEAC CD-50 Internal CD-ROM 265ms 335KB	$399
Texel 3024 Internal CD-ROM SCSI II 265ms 300KB	$379
Toshiba 3401 Internal CD-ROM SCSI II 200ms 330KB	$439
Coloroda Tape Backup 120MB/250MB	$145/185
Coloroda Trakker External Tape Backup 120/250MB	$310/365
3M 2120 120MB/250MB Tape	$17
UltraStor 34F VLB Controller (SCSIBusMastering)	$279
Promise VLB IDE Cache Controller 4030	$165
Wonder System:IDE 4HD/2HD Controller	$25
SCSI IDE 4FD CDROM Controller	$89
VLB IDE 2HD/2FD 2S 1P Controller	$59
IDE 4HD/4FD COEXIST SCSI MFM RLL ESDI	$59

Monitors

14" SVGA Color Monitor 1024 .28	$259
14" SVGA Color Monitor 1024 .28 NI 60Hz	$285
14" SVGA Color Monitor 1024 .28 NI 72Hz	$309
Samsung 15"SyncM. 15C .28 1024 NI 72Hz	$449
Samsung 17"SyncM. 4+ .31 1280 NI 72Hz	$799
Samsung 17"SyncM. 5C .26 1280 NI 72Hz	$899
ViewSonic 4E/6E(NI) 1024 .28	$275/315
ViewSonic 5+ 1024x768 .25 NI 70Hz	$479
ViewSonic 15 15" .28 70Hz Flat	$535
ViewSonic 7/17 17" .28 NI 72Hz	$899/1089
ViewSonic 20 20" .31 NI 72Hz	$1890
SONY 14" 1430/17" 1730 .25 72Hz	$589/1049
SONY 20" 2036/2038 .30 80Hz	$1999/2249
NEC 15" 3FGe/4FGe 1024	$609/$709
NEC 17" 5FGe/21" 6FG	$1189/$2495
MAG 15" 15F/17" 17 1280x1024 .28	$555/$1019
Nanao 15" Flat 1014 .28	$735

.... *And Much More* ....

Graphic Cards

Trident 9000 1024x768 w/512KB	$45
Trident 8900C 1024x768 w/1MB	$65
REALTEK 1024x768 w/1MB & Hi Color	$65
Paradise Graphic Accelerator w/1MB&Hi-C	$139
Orchid Fahrenheit VESA VLB w/1MB	$149
Orchid Fahrenheit VESA VLB w/VA 1MB	$189
Orchid Fahrenheit Plus w/1MB & Hi-Color	$149
Orchid P9000 VLB w/3MB & True-Color	$369
Orchid Celcius VLB w/2MB & True Color	$319
Diamond 24X w/1MB & True-Color	$179
Diamond Stealth 24VLB w/1MB True-Colo	$159
Diamond Stealth Pro VLB w/1MB VRAM	$249
Diamond Viper VLB w/2MB & True-Color	$389
ATI Ultra Graphic Pro w/2MB VRAM VLB	$389
Genoa 8500VL 24-Bit Accelerator	$109
ATI Ultra Graphic Pro w/2MB(MCA,EISA)	$489
ATI Ultra Graphic Pro w/2MB VRAM ISA	$479
SummaSketch III 12x12 4 or 16 Buttons	$309

.... *And Much More* ....

Softwares

Microsoft DOS 6.0 Upgrade (NEW)	$48
Microsoft DOS 6.0 Full Version	$42*
IBM OS/2 Version 2.1 (NEW)	$99
Microsoft Windows 3.1	$35*
Microsoft Access for Windows	$88
Microsoft Excel 4.0 for Windows	$125
Microsoft Entertainment Pack 1-3	$30@
Microsoft Flight Simulator 4.0	$38
Microsoft Word 2.0 for Windows	$125
After Dark for Windows	$27
Lotus Improv for Windows	$99
WordPerfect for Windows 5.2 (NEW!)	$115
BitFax for Windows w/OCR & BitCom	$69
CD-ROM Software Package (5 CDs)	$89
FrameMaker 3.0 for Windows	$309
Norton Utilities 7.0 (NEW!)	$109
QEMM 386 7.0	$59

.... *And Much More* ....

AiM *Computers*

1741-C Clayton Road, Concord, CA 94520
TEL: (510) 687-2822
FAX: (510) 687-5276
Hours: M-F 10-6:30
Sat 10-5:00

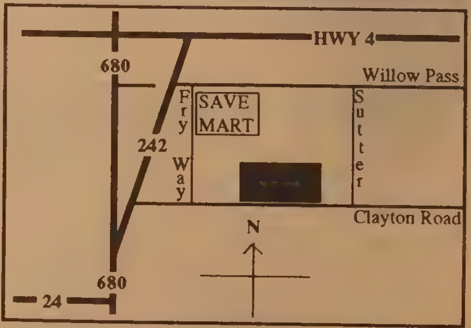
VISA MasterCard

AiM Quality Guarantee

*** Lifetime Labor & 1 Year Parts**
*** 72 Hours Burn-In**

Prices subject to change without notice
Not responsible for typographical errors
Trademarks are registered by the respective companies
Contents subject to change without notice
** Limited warranty, see store for detail
* w/ System purchase

Extended Warranty Service Available
On-Site Service Repair Available
Delivery & Setup Available
Financing & Leasing Available



Aug 21'93

PIONEX Non-Interlaced SVGA Color Monitor

PIONEX Introduces A New Modular Designed Technology in Their Monitors With Larger Image Area Than Other 14" Monitors.

- 14" Monitor
- SVGA Non-Interlaced Color
- 1024 x 768 Resolution
- .28mm Dot Pitch

Call for Dealer Pricing & More Information

486-33 MHz VESA MOTHERBOARD

Our VESA Local Bus increases performance not the price!

Enjoy the extraordinary increased performance of VESA Local Bus without paying hundreds more.

Your graphics throughput could be 50 times faster than a standard SVGA Card. That's because our VESA Local Bus transports your images on a very wide 32-bit super highway. They're also zooming along at the computer's clock speed, instead of 8MHz. Those images avoid bottlenecks because the local bus card connects directly with the CPU.

Future upgrades will be a snap because loads of companies will be competing to sell you VESA peripherals. We'd never stick you with a system that had no upgrade potential.

MULTI-MEDIA SYSTEM
486-33 MHz SYSTEM $CALL

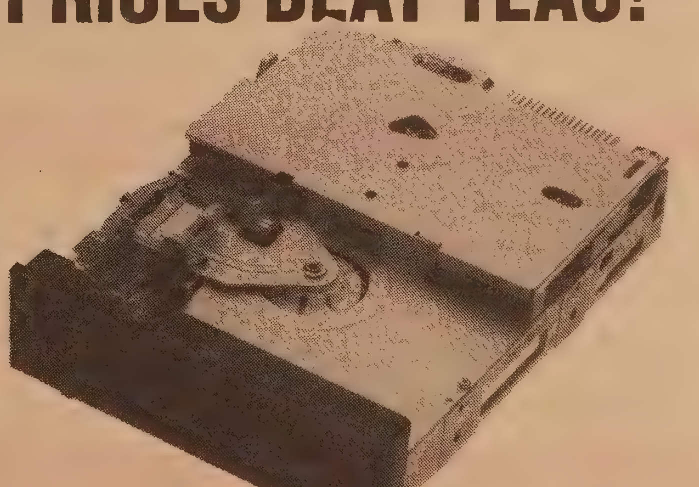
INCLUDES:

INCLUDES:
CD-ROM,
SOUND CARD,
AND 4 CD's

√ INTEL 33 MHZ 80486 MICRO-PROCESSOR
√ 4 MB RAM EXP. TO 32 MB ON THE BOARD
√ 1.2 MB OR 1.44 MB FLOPPY DRIVE
√ 200 MB IDE HARD DRIVE
√ SONY CD-ROM W/375ms ACCESS TIME
√ SOUND CARD W/SOFTWARE
√ SET OF EXTERNAL SPEAKERS
√ 4 CD'S INCLUDING: COMPTON'S MULTI-MEDIA ENCYCLOPEDIA, BRITANNICA'S FAMILY CHOICE, BRITANNICA'S HOME OFFICE SELECT AND SOFTWARE JUKE BOX
√ 14" SVGA COLOR MONITOR .28mm
√ SVGA 1MB ADAPTER
√ SIX 16-BIT SLOTS AND ONE 8-BIT EXPANSION SLOT
√ 101-KEY KEYBOARD
√ MS DOS 6.0
√ WINDOWS 3.1 WITH MICROSOFT COMPATIBLE MOUSE
√ 2 SERIAL, 1 PARALLEL AND 1 GAME PORTS

CHINON
FLOPPY DRIVES

"THE QUALITY AND PRICES BEAT TEAC!"



★★BEST PRICE ANYWHERE★★

MICRO DISTRIBUTION CENTER

48879 KATO RD., FREMONT, CA 94539 **(510) 657-8079 FAX (510) 657-9511**
15523 BROADWAY, CENTER STREET, GARDENIA, CA 90248 **(310) 515-0155**

AT, XT is a registered trademark of IBM Inc.

SCHWAB SYSTEMS

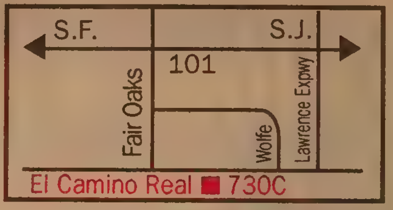
SINCE 1987

SCHWAB COMPUTER

730 EAST EL CAMINO REAL, SUITE C • SUNNYVALE, CA. 94087 • HOURS: M-F 9-6 SAT 11-4

YOU GET WHAT YOU NEED:
THE BEST VALUE FOR YOUR MONEY!

TEL: (408) 245-6666 • FAX: (408) 245-3103



SC486DX VLB SUPER SYSTEM

- INTEL 486DX-33 MHz CPU
- 256K CACHE
- US MADE VLB SUPER BOARD
- 4 MB RAM
- 1.2 MB OR 1.44 MB FLOPPY DRIVE
- 101 KEYBOARD AND I/O CARD
- 213 MB HARD DISK
- VLB VIDEO ACCELERATOR
- VLB IDE CONTROLLER
- 14" SVGA MONITOR .28MM
- MINI TOWER CASE W/230W POWER SUPPLY

$1398

SC386DX-33/40 ISA SYSTEM

- INTEL/AMD CPU
- 128K CACHE
- 4 MB RAM
- 130 MB HARD DISK
- IDE CONTROLLER
- 1.2 MB OR 1.44 MB FLOPPY DRIVE
- 101 KEYBOARD AND I/O CARD
- SVGA ADAPTER WITH 512K
- 14" SVGA MONITOR 0.28MM
- MINI-TOWER CASE W/230W POWER SUPPLY

$998

MOTHERBOARDS

486 VLB 33/66 256KC	$140
486 ISA 33/50/66 128KC	109
386 DX 33/40 128KC	99
486 SX 25 w/CPU 128KC	239
386SX 33 w/CPU	99

HARD DRIVES

130 MB IDE	$189
213 MB IDE	229
245 MB ID	269
340 MB IDE	339
520 MB IDE	759
1.2 GB SCSI	1099

MONITORS

12/14" Mono	$95
14" SVGA 0.28mm	255
14" SVGA NI 0.28mm	299
15" MAG 1280 NI	575
17" MAG 1280 NI	975
20" HITACHI 1280 NI	1350

VIDEO ADAPTERS

SVGA w/512K	$38
SVGA w/ 1 MB	56
Orchid F1280 VLB	169
Stealth 24 VLB	169
Orchid P9000 VLB	349
ATI Ultra Pro VLB	349

FLOPPY & TAPE BACK-UP

1.2 MB 5.25"	$49
1.44 MB 5.25"	48
Teac 1.2 & 1.44 MB	149
Colorado 120 MB TB	145
Colorado 250 MB TB	199
Archive 250 MB TB	189

DISK CONTROLLERS

IDE Controller	$15
IDE + I/O	22
IDE VLB + I/O	55
Orchid IDE VLB	75
Adaptec 1542C Kit	265
Adaptec 1742C Kit	429
Ultrastor 34F VLB	299

KEYBOARDS

Mitsumi 101	$25
Lite-On 101	26
Keytronic 101	36
MaxiSwitch 101	38
Click 101	23
Omni 101	75

CASES

Mini Tower w/230W	$55
Mini Desktop w/200W	57
Mid Tower w/250W	79
Full Tower w/250W	109
Full Tower w/300W	149

MODEMS

2400 Internal	$36
24/96 Fax Internal	55
14.4/14.4 Fax Internal	189
14.4/14.4 Fax External	229

All w/Software For DOS & WIN.

NETWORKING

NE 1000 Comp 8 Bit	$49
NE 2000 Comp. 16 Bit	59
SMC Elite 16 Bit	129
3COM	CALL
LANtastic AE-2 Starter	499
LANTastic AE-2 Adapter	199

CD-ROMS & SOUND

Mitsumi Int w/Card (Photo CD Ready)	$199
Sony CD-31 Int	255
Toshiba 3401B Int	449
Toshiba 3401B Ext	529
Spectrum	159

PRINTERS

Panasonic 2123	$229
Panasonic 2180	169
Panasonic 2624	339
HP DeskJet 500C	539
HP 4L Laser Printer	CALL
OKI Laser 400	575

MOUSE & DIGITIZERS

Serial Mouse	$15
Logitech 3 Button	35
Microsoft Serial	49
Microsoft Bus	69
Logitech Trackball	79
Summasketch III 12x12	329
Calcomp	CALL
Kurta	CALL

SCANNERS & ETC.

Complete PC GS Full Page	$395
ScanPlus Color Page	595
Digi TV Board (Turns Your Monitor Into A TV Screen)	350

SOFTWARE

DOS 6.0	$48
Windows 3.1	49
MS-Word	299
MS-Excel	299
MS-Office	479

MEMORY CHIPS

1x9-70ns	$CALL
4x9-70ns	CALL
387SX-33	79
387DX-33	87
486DX-33	339
486DX-66	549

■ WE OFFER LIFETIME FREE TECHNICAL SUPPORT WITH EVERY SCHWAB SYSTEM SOLD PLUS ONE YEAR PARTS AND LABOR WARRANTY.
■ PRICES AND AVAILABILITY AND SPECIFICATIONS ARE SUBJECT TO CHANGE W/O NOTICE ■ NOT RESPONSIBLE FOR TYPOGRAPHIC ERRORS ■ GOVERNMENT, UNIVERSITY AND QUALIFIED FIRMS PO ACCEPTED

SPiDER Black Widow VLB™

Available Now!
OS/2 2.1 Driver
Rocket Accelerator Board
Designing for Heavy Graphics Application
16.7 Million True-color Video Graphics
MultiMedia Accelerator

Products Available

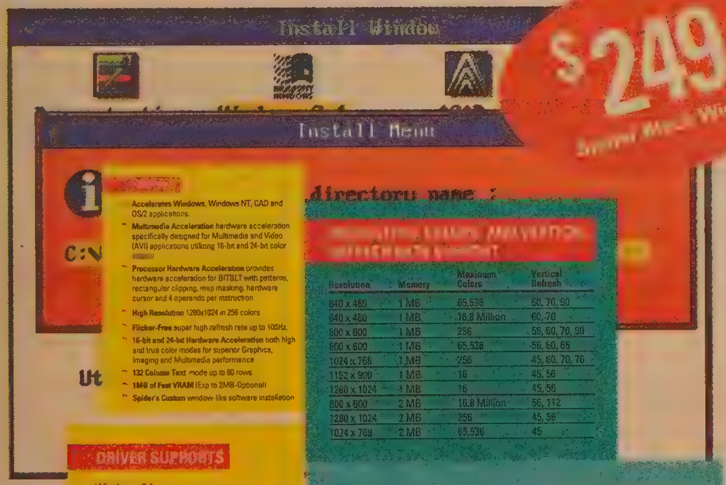
Spider 32 VLB
Spider 32 VLB Plus
Spider Black Widow
Spider Vesa 486 Motherboard

Coming Soon!

Spider 32 VLB Pro
50% Faster than S3(805) Chip Set
Include 2 Serial, 1 Parallel, 1 Game
Fast 32 Bits IDE Controller, 4 FD
(available Sept. 15)

Spider Black Widow Plus
30% Faster than Orchid P9000
& Diamond Viper VLB
15% Faster Orchid Celsius &
Hercules Graphite VLB
(available Sept. 15)

Spider Black Widow



$249
Spider Black Widow

[illegible]

- Accelerates Windows, Windows NT, CAD and OS/2 applications.
- **Multimedia Acceleration** hardware acceleration specifically designed for Multimedia and Video (AVI) applications utilizing 16-bit and 24-bit color [illegible]
- **Processor Hardware Acceleration** provides hardware acceleration for BITBLT with patterns, rectangular clipping, map masking, hardware cursor and 4 operands per instruction
- **High Resolution** 1280x1024 in 256 colors
- **Flicker-Free** super high refresh rate up to 100Hz.
- **16-bit and 24-bit Hardware Acceleration** both high and true color modes for superior Graphics, Imaging and Multimedia performance
- **132 Column Text** mode up to 60 rows
- **1MB of Fast VRAM** (Exp to 2MB-Optional)
- **Spider's Custom** window-like software installation

[illegible]

Resolution	Memory	Maximum Colors	Vertical Refresh
640 x 480	1 MB	65,536	60, 70, 90
640 x 480	1 MB	16.8 Million	60, 70
800 x 600	1 MB	256	56, 60, 70, 90
800 x 600	1 MB	65,536	56, 60, 65
1024 x 768	1 MB	256	45, 60, 70, 76
1152 x 900	1 MB	16	45, 56
1280 x 1024	1 MB	16	45, 56
800 x 600	2 MB	16.8 Million	56, 112
1280 x 1024	2 MB	256	45, 56
1024 x 768	2 MB	65,536	45

DRIVER SUPPORTS

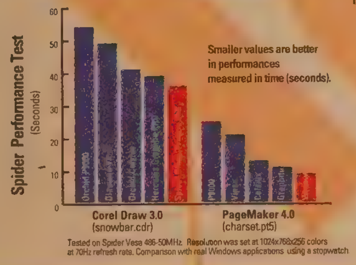
Windows 3.1
OS/2 Version 2.1
AutoCAD Release 11 & 12
AutoSHADE Release 2.0
VersaCAD Version 7
CADKEY Version 6.0
PCAD 5.1
Microstation 4.0, 3.1, or later
WordPerfect 5.1
Lotus 1-2-3 Release 2.X
Symphony Release 1.1
VESA VGA BIOS extension

Drivers are updated and added on a regular basis. Check the Spider Bulletin Board or contact Spider Technical Support for availability

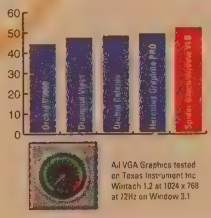
Compared Prices

Orchid P9000 (Weitek P9000 Chip)	$599
Diamond Viper (Weitek P9000 Chip)	$599
Orchid Celsius (IIT X15)	$499
Hercules Graphite PRO VLB (IIT X15)	$599
Spider Black Widow (IIT X15)	$249

Spider Black Widow VGA base on X15 chip from IIT. (IIT X15 selected editor choice on Windows Magazine, PC Magazine and InfoWorld)



Tested on Spider Vesa 486-50MHz. Resolution was set at 1024x768x256 colors at 70Hz refresh rate. Comparison with real Windows applications using a stopwatch

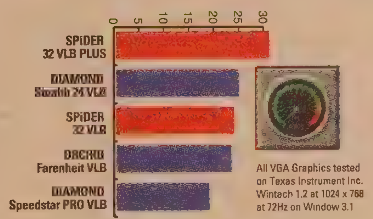


All VGA Graphics tested on Texas Instrument Inc Wintach 1.2 at 1024 x 768 at 72Hz on Window 3.1

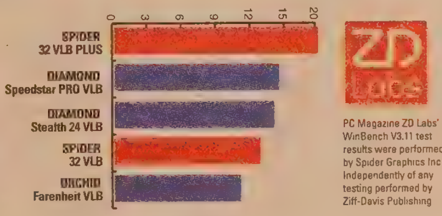
Spider 32 VLB/Plus

Performance Test	SPiDER 32 VLB PLUS	SPiDER 32VLB	ORCHID Farenheit VLB	DIAMOND Stealth 24 VLB	DIAMOND Speedstar PRO VLB
WINTACH 1.2	31.5	23.81	23.19	24.72	18.77
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
RETAIL PRICE	[illegible]	$125.00	$249.00	[illegible]	[illegible]
[illegible]	YES	YES	[illegible]	NO	NO

(Test on 486-50DX with Windows 3.1 in resolution 1024x768x256 Colors, 1MB RAM on following motherboards chipset SIS, CONTAQ, OPTI, UMC, USA CHIP SET)



All VGA Graphics tested on Texas Instrument Inc. Wintach 1.2 at 1024 x 768 at 72Hz on Window 3.1



PC Magazine ZD Labs' WinBench V3.11 test results were performed by Spider Graphics Inc Independently of any testing performed by Ziff-Davis Publishing

Driver Supports:

Windows 3.0, 3.1
AutoCad R.9, 10, 11, 12
GEM Ver 2.2
Lotus 1-2-3 R.2.0, 2.1, 2.2
Symphony R1.1
Ventura Publisher Ver 1.1, 2.0
WordPerfect 5.0, 5.1
Wordstar 4.0
Autodesk 3D Studio
OS/2 PM Ver 2.0
AutoDesk-Shade Ver 2.0
PCAD
MS-Word

Specifications:

Bus Compatibility
Supports VESA LOCAL BUS (VL-BUS)

Resolution	1 MB	2 MB
640 x 480	16.7 M Colors	16.7 M Colors
800 x 600	64K Colors	64K Colors
1024 x 768	256 Colors	64K Colors
1280 x 1024	16 Colors	256 Colors

Highest resolution of 1280 x 1024 in 256 colors (with 2MB of RAM)

Attention Spider's Users!
New Windows Driver + OS/2 2.1 on BBS. (15% Faster)

End-users please call the following dealers:

Art Computer, Milpitas
(408) 946-7852
Computer Express, Santa Clara
(408) 247-1996
Pixel USA Computer, San Jose
(408) 929-7218
Berlin Technology, San Jose
(408) 297-7138
Computer Art II, Sacramento
(916) 366-7128
UMiracle Microsystems, Fremont
(510) 226-6746

[Retailers Please Call (408) 956-1231 For Your Distributors]

Microsoft Windows Compatible

All Graphics Card are MADE IN U.S.A

SPiDER® Graphics, Inc.

801 Ames Avenue • Milpitas, California 95035 • 408 956-1231 • FAX 408 956-1342

Spider Graphics, Inc. and Spider 32 VLB are registered trademarks, and all other product or brand names are property of their respective owners. © 1993, Spider Graphics, Inc. All rights reserved. Features and specifications subject to change without notice.

Bus	Model	Cache	System	Motherboard Only
VESA 2 LOCAL BUS	486-66DX2	128K CACHE	$818	$638
VESA 2 LOCAL BUS	486-50DX	128K CACHE	$748	$568
VESA 2 LOCAL BUS	486-50DX2	128K CACHE	$678	$498
VESA 2 LOCAL BUS	486-33	128K CACHE	$598	$418
3 EISA 2 LOCAL BUS	486-66DX2	256K CACHE	$968	$788
3 EISA 2 LOCAL BUS	486-50DX	256K CACHE	$858	$678
3 EISA 2 LOCAL BUS	486-33	256K CACHE	$728	$548
	486-33	128K CACHE	$798	$616
	486-50DX	128K CACHE	$728	$548
	486-50DX2	128K CACHE	$698	$518
	486-40	128K CACHE	$578	$398
	486-33	128K CACHE	$578	$398
	486-50SLC	64K CACHE	$508	Genuine IBM Motherboard $318
	486-25SX	128K CACHE	$368	$178
	386-40	128K CACHE	$328	$138
	386-33SX		$268	$78

BASIC SYSTEM CONFIGURATION:

- 1MB RAM Expandable
- IDE 2FD/2HD Controller
- 101 Key Mitsumi Keyboard
- Teac 1.2 or 1.44 MB Floppy Drive
- 2 Serial, 1 Parallel, 1 Game Ports
- Mini-Desk Top or Tower Case
- Power Supply
- One Year Warranty

LIFETIME LABOR WARRANTY ON SYSTEM!

NEW

SOUND CARD FOR FUN & BUSINESS
LaserWAVE supra 16
$159

- Adlib, SoundBlaster 2.0 Compatible
- Recording and playback songs, music and voice
- Play CD-Audio Albums
- Create interactive training with voice output
- Interactive help systems for business application
- Musical composition using MIDI interface
- Supports voice recognition
- Mix realty voice and music for presentation
- Supports Windows Sound System compatible software

"TWIN SOUND" SPEAKER
$60

- Installs into 5.25" Drive Bay
- No Wires, No Batteries, No Adapters, No Mess!
- Frequency Modulated Flashing LEDs

VIDEO CARDS

ATI Ultra Pro VLB 2MB	$355
ATI Ultra Pro 2MB ISA	355
ATI Ultra Graphics Plus 2MB	269
Diamond Stealth 24	$150
Diamond Stealth 24 VLB (S3 Chip)	150
Diamond Stealth Pro (VRAM) 1/2 MB	239/349
Diamond Viper 2MB VRAM	375
Diamond Speedstar 1MB VLB	118
ORCHID FAHRENHEIT DRAM w/ VA	$150
ORCHID FAHRENHEIT VESA LOCAL BUS w/VA	150
GENOA VESA LOCAL BUS	$108
ET 4000 1024x768 NON-INT.	79
TRIDENT VGA (1024x768) 1MB	54
Accumos VGA 800x600/256K	28
Accumos 1024x768/512K	39
GENERIC Monochrome Graphics w/Printer Port	17

DRIVE CONTROLLERS

AIR VESA IDE/SCSI w/2S, 1P	$189
DTC 3280 SCSI	95
DTC 2290 EISA IDE FD/HD	135
IDE Controller w/2S/1P/1G	19
IDE I/O VLB (True 32 Bit) 2S/1P	38
Adaptec SCSI 1542C w/ software	195/248
Adaptec SCSI 1742A EISA w/ Floppy & software	418
Ultrastor VLB SCSI II 32K Cache	275

I/O CARDS

AT I/O (2S 16550/1P/1G) Hi-Speed	$42
RS-232 card	17
AT-I/O (2S/1P/1G)	15
Printer Card	12
Game Card	12

MONITORS

NANAO F340iw 15" .28	$695
F550i 17"	1075
F550iw	1125
T560i 17"	1695
T660i 20"	2595
F750i 20"	2095
KFC 17" Flat Screen .26	835
STANDARD 17" 1280x1024 .26	669
VIEWSONIC 17" 1280x124 .28NI	1125
20" 1600x1280 .28NI	1785
V6E Non-Int 14"	335
V5E	395
15" 1280x1024 NI	545
V4E 1024x768 VGA 14"	305
EYEQ 1024x768 VGA .28	255
TOUCH SVGA 1024x768 (OEM Goldstar).39	215
TOUCH NI 1024x768 (OEM Goldstar).28	275
STANDARD TECHNOLOGIES 1024x768 .28 Full Screen	268
VGA Mono	109
NEC 4FGE	705
3FGE	599
14" Flat Screen Mono (Amber or Paper White)	95
SONY 1430S Non-Int (1024x768) 14"	599
1604S 16"	965
1730 17"	995
2038 20"	2295
MAG MX 15F .28 1280x1024 NI	535
MAG MX 17F .26 1280x1024 NI	975

KEYBOARDS

Keytronic 101	$37
Mitsumi 101	30
Chicony 5161 101 Keyboard (clicking)	39
MAXISWITCH 101 Keyboard	35
Omni 102/Ultra	69/95
Black 101 Keyboard	39

MODEMS & FAX MODEMS

ZOLTRIX 2400 Internal Modem	$35
24/96 Fax Modem (Send/Receive)	52
14400 Fax Modem V.42 Int/Ext	144/185
US Robotics	CALL

DISK DRIVES

All HD Come With Mounting Bracket

TEAC 1.2 MB	$51
3.5" (1.44 MB)	46
1.2, 1.44 MB Combo Drive	125
MAXTOR 7131A 130 MB 15 ms (new)	188
7213A 213 MB	229
7245A 240 MB	239
7345A (new) 340 MB	319
MXT540S 8.5ms	859
7345S SCSI	429
MXT540A 540 MB	849
1.2 Gigabyte 13ms	999
3.5" 1.2 Gigabytes 8.5ms	1238
1.7 Gigabyte 13ms	1238
CONNER 120 MB 19ms	168
170 MB 17ms	185
250 MB 14ms	248
540 MB	638
QUANTUM LPS 240AT IDE	265
LPS 240AT SCSI	265

NETWORK CARDS

Ethernet 8 Bit	$75
Ethernet 16 Bit	89
Arcnet STar/Bus 8 Bit	49
10 BT Ethernet 16/8 Bit	89/75

TAPE BACK-UP

COLORADO Tape Back-Up 120 MB	$147
Tape Back-Up 250 MB	185
DC-2120 Tape Cartridge For Above	18^{50}
DC-2120 Tape Cartridge Formatted	22
COLORADO Drive External Kit	109
COLORADO Trakker 250 MB	CALL

HIGH QUALITY MAIN BOARDS

ASUS 486-66 MHz w/ CPU w/128/256K Cache	$675/695
ASUS 486-50MHz w/CPU w/ 256K	625
ASUS 486-50MHz DX2 128K Cache	525
ASUS 486-33 MHz w/CPU w/128K Cache	445
486-50 MHzSX VLB w/IBM CPU	338
486-50 SLC (IBM)	318
486-25SX w/ CPU w/Cache	178
386-40 (128K Cache) w/CPU	138
386-33SX	78

COMPUTER CASE

14" Baby AT Case W/ 200W P/S	$69
17" Baby AT Case W/200W P/S	89
Vertical Case 250W P/S	119
Medium Vertcal Case 250W P/S	95
Mini Vertical Case 200W P/S	69
Sleek Black Case	CALL

LOGITECH PRODUCTS

Logitech Trackman Combo	$75
Logitech Trackman Portable	95
Logitech Bus Mouseman	64
Logitech Mouseman Combo	64
First Mouse	37
Mouse (Serial 9 Pin)	9
Microsoft Mouse Bus/Ser (400dpi)	85/75
Trackball	24

PRINTERS

Panasonic KXP-1624 132 Column	$349
KXP-1123	195
KXP-1124i	259

MISC.

MS DOS 6 (w/ System only)	$48
6/10/15/25' printer cable	3^{50}/6/10/20
Keyboard Extention cable	5
Monitor Extension cable	5
Keyboard Drawer/Under Table	27/18
Computer floor stand	7^{95}
Power Center	18
Printer switch box (AB/ABCD)	9^{50}/19
Power supply 220W	48
Memory Chips (DIPS/SIPPS/SIMMS)	CALL
Math Co-Processors	CALL
Disk Box	7^{50}
Power Strip	7
Keyboard Rest	3^{50}

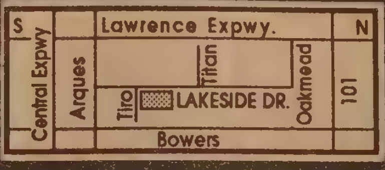
U.P.S.

550 VA	$229

CALL FOR LATEST PRICES!

AROMA
Computer Systems
Always Ready to Offer More Assistance

470 LAKESIDE DR. Suite F
SUNNYVALE, CA 94086
Tel: (408) 736-4355 M-F 9-7
FAX: (408) 736-4356 Sat 10-4
Prices Subject To Change w/o Notice
Prices Good At Sunnyvale Store Only
$20 surcharge for PO processing on systems



MODESTO OFFICE:
3430 Tully Rd., Suite #21
Modesto, CA 95350
Tel: (209) 525-8080
FAX: (209) 525-8120

YOUR ONE STOP MULTIMEDIA SOURCE

CD-ROM

- PANASONIC (MATSUSHITA) 523 . $179
  380MS ACCESS TIME, 150KB TRANSFER RATE, FREE CADDY
  INTERNAL DRIVE WITH CONTROLLER CARD .. $189
- PANASONIC 532 (MATSUSHITA) (SCSI)
  290MS ACCESS TIME, 150KB TRANSFER RATE, PHOTO-CD COMPATIBLE, FREE CADDY
  INTERNAL DRIVE $309
  - EXTERNAL KIT FOR PANASONIC 522/532 .... $60
- PANASONIC 533 (MATSUSHITA) (SCSI).. $369
  290MS ACCESS TIME, 300KB TRANSFER RATE, 256K BUFFER
- PANASONIC 562 (MATSUSHITA) $249
  320MS ACCESS TIME, 300KB TRANSFER RATE, 64K BUFFER, W/O CONTROLLER CARD
- TEXEL DM-3024N (SCSI)
  265MS ACCESS TIME, MULTI-SPIN, FREE CADDY, PHOTO CD COMPATIBLE
  INTERNAL DRIVE $359
  EXTERNAL DRIVE $445
- NEC CDR84-1 CD ROM
  280MS ACCESS TIME, 300KB TRANSFER RATE, 256K BUFFER, SUPPORTS MULTISESSION PHOTO CD, SCSI/SCSI II SELECTABLE
  INTERNAL DRIVE $419
- TOSHIBA XM-3401 (SCSI)
  FASTEST CD-ROM, 200MS ACCESS TIME, 330KB TRANSFER, MULTI-SPIN, FREE CADDY
  INTERNAL DRIVE $419
  EXTERNAL DRIVE $569
- TRANTOR INTERFACE KIT (T130B) ... $79
- AUDIO CABLES $8.95

FREE INSTALLATION WITH ANY CD-ROM DRIVE PURCHASE!!

CD-ROM SOFTWARE TITLES

WITH DRIVE PURCHASE PRICES

ENTERTAINMENT CD-ROM TITLES

CHESSMASTER 3000 MPC	$19
JONES IN THE FAST LANE MPC	25
KINGS QUEST V MPC	25
LOOM FROM LUCAS FILM	25
MAVIS BEACON TEACHES TYPING	25
MEDIA CLIPS 4 PACK FROM ARIS.	49
SECRET WEAPONS OF LUFTWAFFE	25
SHERLOCK HOLMES, CONS, DET	25
TOTAL BASEBALL	29
WHERE IN THE WORLD IS CARMEN SAN DIEGO	25
CD STORYTIME DOS	16
STELLAR 7 DOS	19
MONKEY ISLAND	25
AMANDA STORIES	39
COMPOSER QUEST MPC	29
BEAUTY & BEAST	15
PETER & WOLF	15
MIXED-UP MOTHER GOOSE	19
DESERT STORM MPC	19
WING COMMANDER & ULT VI DOS	25
PC GRAPHICS & SOUND DEMO	19
SPORTS BEST	22
BATTLE CHESS	19
CD GAME PACK II	25
JETS & PROPS (2 CD)	22
SPACE QUEST IV BY SIERRA	19
DINOSAUR ADVENTURE	29
SPACE ADVENTURE	29
WILLY BEAMISH-THE ADVENTURE	25
WHALE OF TALES	68
NATIONAL PARK DOS	19
MARIO IS MISSING/WORLD ATLAS 3.2	25
SLEEPING BEAUTY	18
MANTIS EXPERIMENTAL FIGHTER	18
BEYOND THE WALL OF STARS	29
WHO KILLED SAM RUPERT?	29
INTERACTIVE STORYTIME VOL. I	19
501 SOUND WAVE #1	14
KODAK PHOTO CD MPC	19

EDUCATIONAL CD-ROM TITLES

ANIMALS V1.0 SOFTWARE TOOL	$25
FAMILY DOCTOR	27
GUINNESS DISC OF RECORDS 1993	27
TIME MAGAZINE ALMANAC 1991	25
U.S. ATLAS WITH AUTOMAP	25
U.S. HISTORY	29
WORLD ATLAS MULTIMEDIA MPC	19
LANGUAGE OF THE WORLD FOR WINDOWS	29
ISLAND DESIGN 2 CD	19
FAMILY CHOICE	27
LIBRARY OF THE FUTURE 1ST	45
NAT'L GEOGRAPHIC MAMMALS	27
WORLD VIEW	15
OCEAN DIGITAL IMAGERY VI	29
ELEC LIBRARY OF ART VI	29
ELEC LIBRARY OF ART V2	29
GREAT CITIES VOL I	21
GREAT CITIES VOL 2	21
TIME TABLE OF HISTORY	19
TOOLWORKS ENCYCLOPEDIA	54
WILD PLACES	15
MACMILLON DICT. CHILDREN	35
PRESIDENTS	78
DTP PRO FM-WAVE CLIPART	19
ANNABELLE'S DREAMS-EGYPT	59
USA WARS: CIVIL WAR	35
USA WARS: KOREA	35
USA WARS: WW II	35
USA WARS: VIET NAM DOS	35
FAMILY EDUCATION COLLECTIONS	23
US ATLAS	19
CIA WORLD FACT BOOK	19
SOUND LIBRARY	19
BRING THE WORLD TO YOUR SENSES	15
TOOL WORKS REFERENCE LIBRARY	21
PLAYING WITH LANGUAGE: ENGLISH	29
PLAYING WITH LANGUAGE: FRENCH	29
PLAYING WITH LANGUAGE: GERMAN	29
PLAYING WITH LANGUAGE: JAPANESE	29
PLAYING WITH LANGUAGE: SPANISH	29
VITAL SIGNS MPC	69
DICTIONARY OF THE LIVING WORLD	29
ARTHUR TEACHER TROUBLE	25
TEMPRA ACCESS PHOTO CD	25
MIDI MUSIC SHOP	29
MAYO CLINIC FAMILY HEALTH BOOK	29
WIZARD PC	19
CD DELUXE PACK 4 TITLES IN 1	43
SURVEY OF WESTERN ART MPC	29
THE RIGHT COLLEGE	19
KILLER TRUCK CD-MUSIC LIBRARY	18
SFX-300 SOUND EFFECTS	18
ATLAS PACK V3.1/3.01 WORLD/US	25
BARRONS COLLEGE GUIDE	25
ELECTRONIC HOME LIBRARY	29
MULTIMEDIA AUDUBON'S BIRDS	22
MULTIMEDIA AUDUBON'S MAMMALS	22
SHAKESPEARE	18

**CALL FOR MORE INFORMATION ON SOFTWARE TITLE AVAILABILITY & PRICING*

CREATIVE

CREATIVE LABS, INC.

MULTIMEDIA PRODUCTS

•VIDEO BLASTER	$308
•SOUND BLASTER PRO DELUXE	118
•STEREO SOUND CARD W/MPC ENCYCLOPEDIA HSC INTERACTIVE & MONOLOGUE FOR WINDOWS	
•SOUND BLASTER PRO 16 ASP	198
•CADDY	5.50
•SPEAKERS	18
•LABTEC CS-150	
•SPEAKER 25 WATT	44
•SPEAKERS 80 WATT	75
•AC ADAPTER FOR SPEAKER	8
•HEADPHONES	8

MEDIA VISION • "MEDIA VISION" MUSIC CARD (OEM) ... $145
•PRO AUDIO SPECTRUM 16

GRAVIS ULTRA SOUND MUSIC CARD
16 BIT, 32 VOICE, CD QUALITY SOUND $139

CD-ROM SOFTWARE TITLES

BUNDLE SPECIALS:

(WITH AROMA'S MULTIMEDIA PRODUCT PURCHASE ONLY)

THE 7TH GUEST $46

•COMPTON'S FAMILY ENCYCLOPEDIA	$29
•LOTUS® 1-2-3 MULTIMEDIA PC	99
•COMPTON'S PC ENCYCLOPEDIA	68
•MICROSOFT® BOOKSHELF MPC	48
•MICROSOFT WORK MPC	43

486-33 MHZ MULTIMEDIA COMPLETE SYSTEM SVGA W/CD-ROM

PACKAGE INCLUDES:

- 486-33 MHZ W/128K CACHE
- INTEL 80486-33 CPU
- 4 MB RAM
- 120 MB HARD DRIVE
- PANASONIC CD-ROM MODEL 522
- MEDIA VISION MUSIC CARD SPECTRUM 16
- 1.2 OR 1.44 MB FLOPPY DRIVE
- 14" SVGA 1024X768 .28MM COLOR MONITOR
- SVGA CARD W/1 MB
- IDE CONTROLLER (2S/1P/1G)
- 101 KEYBOARD
- LABTEC CS-150 SPEAKERS

$1589

CALL FOR OTHER CONFIGURATIONS & OPTIONS

CD TITLES FOR MAC

GUINNESS OF REC 1993	$29
ANIMALS	29
ATLAS PACK-US/WORLD	29
COLOR IT	25
GROLIER ENCYCLOPEDIA	54
LUCAS GAME PAC	25
MAYO CLINIC HEALTH BOOK	29
PUBLISH IT	29
SHERLOCK HOLMES	28

BUSINESS CD-ROM TITLES

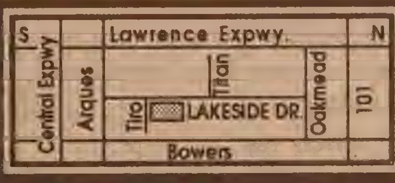
AMERICAN BUS. PHONE BOOK	$19
BUSINESS & ECONOMIC ATLAS	27
MARKETING MASTER DOS	18
PUBLISH•IT 2.0 DOS	29
AUTHORWARE STAR FOR WINDOWS	39
MACROMEDIA ACTION FOR WINDOWS	28
Q&A DOS 4.0	36
BUSINESS BACKGROUND	19
MONEY MONEY MONEY	19

SHAREWARE

PC-SIG 11TH ED DOS	$19
PC-SIG 12TH ED DOS	29
SO MUCH SHAREWARE I	15
SO MUCH SHAREWARE II	19
SO MUCH SHAREWARE III	23
THE SHAREWARE CONCEPT	18
WINWARE VOL. 3	19

AROMA
Tech., Inc.

470 LAKESIDE DR Suite F
SUNNYVALE, CA 94086
Tel (408) 736-4355 M-F 9-7
FAX (408) 736-4356 Sat 10-4
20 surcharge for PO processing on systems
Prices Subject To Change w/o Notice
Prices Good At Sunnyvale Store Only



MODESTO OFFICE
3430 Tully Rd. Suite #21
Modesto, CA 95350
Tel (209) 525-8080
FAX (209) 525-8120

Navigating OS/2's Desktop,

Or,
OOPS, We're Deep In GUI!

BY FABIAN PASCAL

As I said last month, if you were lucky enough to survive the installation process without debilitating quirks and problems, you are are now able to boot OS/2 and get the standard desktop, as in Figure 1. (Depending on your hardware and OS/2 configurations, what you see may differ, but the following is basic to all installations.)

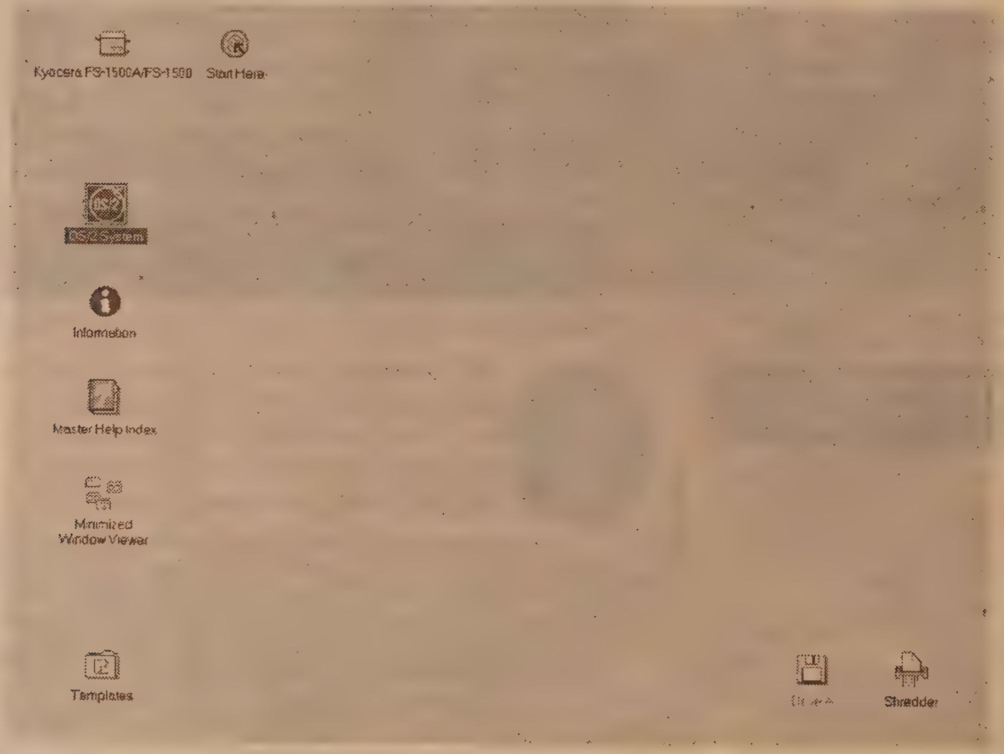

Kyocera FS-1500A/FS-1500
Start Here
OS/2 System
Information
Master Help Index
Minimized Window Viewer
Templates
Drive A
Shredder

Figure 1

OS/2 1.x already had a graphical user interface (GUI) called Presentation Manager, but with v2.0, the GUI underwent a major overhaul, adopting what is a real mania in the industry—object orientation (OO). The new GUI, the Work Place Shell (WPS), is not just graphical, but is also supposed to be object-oriented. Whether OO—which does not have a precise definition—is as good an idea as is claimed is a subject beyond the scope of this column. As we go along, you'll have to judge for yourself.

WPS is a point-and-click, drag-and-drop graphical interface to an OS/2 system. You interact with WPS objects represented by icons, which represent physical and abstract entities in the system.

A basic object type is the folder. WPS folders form containment hierarchies: that is, folders can contain other folders, nested within one another to any depth. Other, nonfolder, objects are data files (text, data such as spreadsheets or databases, graphics, or sound files), programs (that is, executables), and devices (such as the mouse, printers, and so on).

Even the neatest of object classification schemes tend to break down and, as we shall shortly see, this is equally true of WPS. Moreover, calling everything an object does not simplify matters as much as it may seem, because what matters is what you can do with objects; despite the fact that they share a common name, their properties and manipulation vary considerably by object type.

THE DESKTOP

The top level folder in WPS is the desktop itself, as shown in Figure 1. The Desktop folder is always open. You close it only when you shut the system down; consequently, it does not make sense to iconize it. The Desktop already contains several objects that were automatically installed; and they are closed, or "minimized" to their iconic representation. To use an object, you must open, or "maximize" it, by clicking on its icon twice with the left-hand mouse button, which opens a window on the desktop.

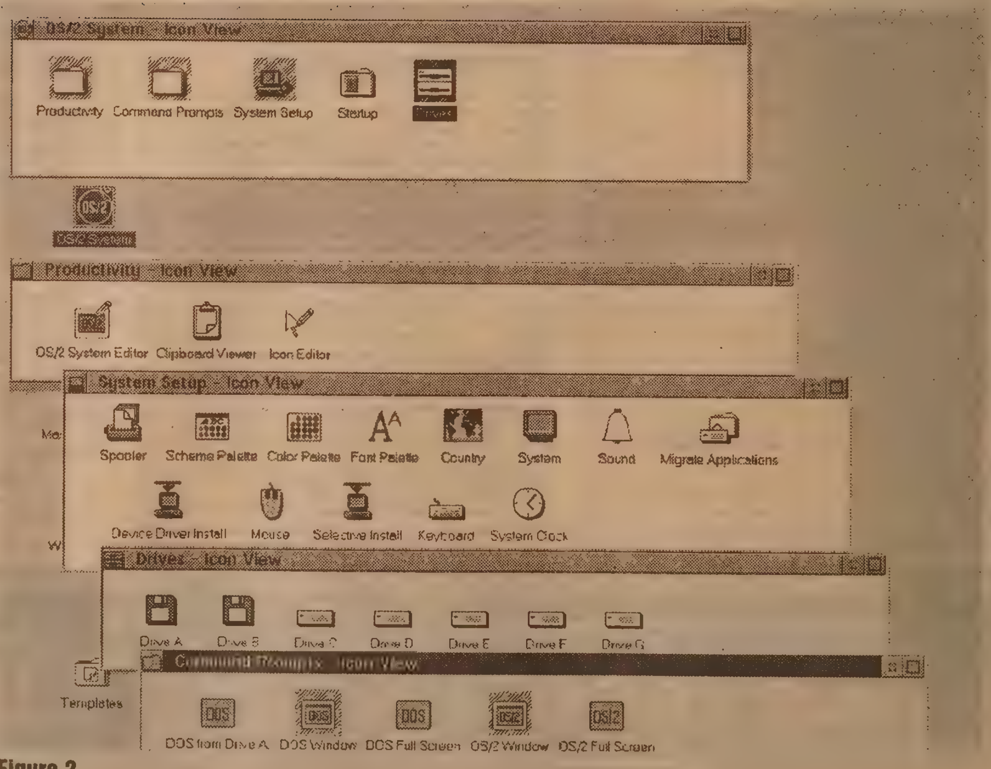

OS/2 System - Icon View
Productivity
Command Prompts
System Setup
Startup
Drives
OS/2 System
Productivity - Icon View
OS/2 System Editor
Clipboard Viewer
Icon Editor
System Setup - Icon View
Spooler
Scheme Palette
Color Palette
Font Palette
Country
System
Sound
Migrate Applications
Device Driver Install
Mouse
Selective Install
Keyboard
System Clock
Drives - Icon View
Drive A
Drive B
Drive C
Drive D
Drive E
Drive F
Drive G
Templates
Command Prompts - Icon View
DOS from Drive A
DOS Window
DOS Full Screen
OS/2 Window
OS/2 Full Screen

Figure 2

Copyright © 1993 by Fabian Pascal. All rights reserved. Fabian Pascal is a Palo Alto independent consultant, teacher, and writer specializing in relational database management, OS/2, and office and portable computing. An industry analyst, he teaches seminars, consults, and has published extensively. His second book, Understanding Relational Databases, is forthcoming from John Wiley. He can be reached on MCI Mail (FPascal), CompuServe (73677,3306), and at 415-325-0646 (fax/voice).

CHICOTEC *Computer*

Your Complete PC Center

542 West Trimble Road, San Jose, CA 95131
TEL: (408) 954-8998 FAX: (408) 954-1135

HOURS:
MON-FRI 9-6
SAT 10-4

101
Montague Expwy.
880
TRIMBLE
Central Expwy
San Tomas
De La Cruz
CHICOTEC
SAN JOSE AIRPORT

- * All prices are subject to change w/o notice.
- * Corp., Govt. and Educ. Purchase Orders are welcome and subject to approval Credit.
- * All returns subject to15% restocking fee.
- * No refund after 30 days.
- * Shipping, insurance and COD charge are extra and non-refundable.
- * System Prices reflect cash discount.
- * System orders add $25 Surcharge for P.O. processing.
- * No responsible for typographical errors.

VISA MasterCard

VESA LOCAL BUS SYSTEM

➢ 486-66DX2	128K CACHE	$799
➢ 486-50DX2	128K CACHE	$709
➢ 486-33DX	128K CACHE	$599

EISA + ISA + LOCAL BUS SYSTEM

➢ 486-66DX2	128K CACHE	$899
➢ 486-50DX2	128K CACHE	$809
➢ 486-33DX	128K CACHE	$689

16 BIT ISA BUS SYSTEM

➢ 486-66DX2	128K CACHE	$769
➢ 486-50DX	128K CACHE	$699
➢ 486-50DX2	128K CACHE	$679
➢ 486-33DX	128K CACHE	$569
➢ 486-50SLC	16K CACHE	$529
➢ 486-25SX	64K CACHE	$379
➢ 386-40DX	64K CACHE	$319
➢ 386-33SX	NO CACHE	$269

BASIC SYSTEM CONFIGURATION:

- * FLOPPY Dr. 1.2 or 1.44MB
- * 101 ENHANCED KEYBOARD
- * Mini-Tower or Desktop Case
- * One Year Parts and Labor Warranty
- * IDE 2FD/2HD CONTROLLER
- * 2 SERIAL, 1 PARALLEL, 1GAME
- * 200Watt Power Supply

PC SERVICE CENTER

- * System Repair
- * System Upgrade
- * Memory Upgrade
- * VGA Monitor Upgrade
- * Pickup service available

Multi-Media CENTER

- * Media Vision Spectrum 16 Bundle
- * Sound Blaster Pro Multimedia Kit
- * CD-ROM Drive
- * Video Blaster /Voice Blaster
- * Pro Movie Spectrum

(See CD-ROM & MultiMedia Section)

CASE & POWER SUPPLY

Mini Tower Case w/200W Power Supply	$65
Baby AT Case w/200W Power Supply	$69
Mid-Tower Case w/230W Power Supply	$89
Full Tower Case w/230W Power Supply	$135
200W Power Supply for XT Case	$45
200W Power Supply for Mini-Tower & Desktop	$45
230W Power Supply for Full Tower	$55

CD-ROM & Multi-Media

SONY CDU31A (HiLite SY490A) INT. w/CTRL, Kit	$225
TEXEL DM3024 (HiLite TX3000) INT 265ms w/CTRL	$425
NEC CDR-74 280ms 300KB/s EXT	$570
NEC CDR-84 280ms 300KB/s INT	$435
TOSHIBA 3401B 200ms 300KB/s INT	$449
TOSHIBA 3401E 200ms 300KB/s EXT	$569
MEDIA VISION SPECTRUM 16 BUNDLE	
Media Vision Spectrum 16 w/SONY 31A CD-ROM (Inc: Lab Tec Speakers & Mayo Family CD)	$425
Media Vision Spectrum 16 w/TEXEL DM-3024 (Inc: Lab Tec Speakers & Mayo Family CD)	$538
Media Vision Spectrum 16 w/SONY 31A CD-ROM (Inc: Lab Tec Speckers & 7 CD Titles)	$485
Media Vision Spectrum 16 w/TEXEL DM-3024 (Inc: Lab Tec Speckers & 7 CD Titles)	$595
SOUND BLASTER PRO Multimedia Kit w/6CDs	$499
SOUND BLASTER 16 ASP	$199
VIDEO BLASTER / VOICE BLASTER	$315/ 75
PRO AUDIO SPECTRUM 16	$145
PRO AUDIO STUDIO 16	$199
PRO MOVIE SPECTRUM	$269

CONTROLLER & I/O

ADAPTEC 1542C SCSI	$199
ADAPTEC 1542CK SCSI W/KIT	$249
ADAPTEC 1742A EISA SCSI W/KIT	$419
AMI FASTDISK CACHE SCSI (0 K) UP TO 16MB	$499
DTC 3280AS SCSI	$103
DTC 6282 ESDI	$123
FUTURE DOMAIN TMC 1660 (HD only) SCSI	$117
FUTURE DOMAIN TMC 1680 (4F&H, 15MB/s) SCSI	$149
IDE LOCAL BUS w/I/O, 2 S, 1 P (PROMISE CHIP)	$45
MYLEX DCE 376 EISA SCSI w/4M CACHE	$729
NCL AMERICA IDE (2FD & 2HD) w/BIOS	$45
PROMISE DC2032 IDE I/O w/CACHE (E.16MB)	$225

CPU

AMD386 DX-40	$69
INTEL 386DX-33	$65
INTEL 387DX	$85
486DX-33/50	$299/435
486DX2-50/66	$399/525
CYRIX 83D87 33/40	$73 / 83
CYRIX CX486DLC 33/40	$109/149
486 CPU COOLING FAN	$20

FLOPPY & HARD DRIVE

TEAC 1.2MB 5.25" /1.44MB 3.5"	$52 / 48
TEAC DUAL FLOPPY 1.2 & 1.44	$125
SYQUEST SQ44e 44MB w/CTRL &CART	$429
CONNER CP30104 120MB 19ms IDE 3.5"	$175
CONNER CP30174 170MB 18ms IDE 3.5"	$195
CONNER CP30254 250MB 14ms IDE 3.5"	$259
CONNER CP-3544 544MB 12ms IDE 3.5"	$659
MAXTOR MXT7131A 130MB 15ms IDE 3.5"	$185
MAXTOR MXT7213S 213MB 15ms SCSI 3.5"	$265
MAXTOR LXT7245A 245MB 15ms IDE 3.5"	$259
MAXTOR LXT7345A 345MB 15ms IDE 3.5"	$335
MAXTOR LXT7345S 3450B 15ms SCSI 3.5"	$439
MAXTOR LXT540A 535MB 12ms IDE 3.5"	$895
MAXTOR LXT540S 535MB 12ms SCSI 3.5"	$849
MAXTOR MXT-1240 1.2GB 8.5ms SCSI 3.5"	$1229
MAXTOR PO-12S 1.2GB 13ms SCSI FH	$995
MAXTOR P1-17S 1.7GB 13ms SCSI FH	$1235
SEAGATE ST3601N 535MB 10ms SCSI-2 3.5"	$949
SEAGATE ST42100N 2.1G 14ms SCSI FH	$1969

MONITOR

9" VGA MONO PAPER WHITE 640X480	$135
9" SIIG MONO PAPER WHITE	$115
CTX 5468A 14".28 SVGA 1024X768	$259
CTX 5468NI 14" .28 SVGA 1024X768 NI	$285
CTX 1760FD/1760LR 17" .28 1280 NI	$775/825
IMPRESSION 1428 14" .28 SVGA 1024X768	$259
IMPRESSION 3439 14" .39 SVGA 1024X768	$209
MAG MX15F 15" FLAT 1280X1024 NI	$545
MAG MX17F 17" FLAT 1280X1024 NI	$955
MITSUBSHI DIAMOND PRO 17" .26 NI	$1070
MITSUBSHI HL6955SETK 20" .31 NI	$1735
NEC 3FG 15" 1024X768 Mac	$585
NEC 4FG 15" FLAT 1024X768 .28 NI	$705
NEC 5FGe 17" FLAT 1024X768 .28 NI	$1105
NEC 6FG 21" FLAT 1280X1024 .28	$2425
VIEWSONIC 4E 14" 1024X768 .28	$299
VIEWSONIC 5E 14" 1024X768 .28 NI (MacII)	$399
VIEWSONIC 6E 14" 1024X768 .28 NI	$335
VIEWSONIC 6FS 15" 1024X768 .28 NI 72Hz	$539
VIEWSONIC 7 17" 1280X1024 .28 NI (MacII)	$969
VIEWSONIC 17 17" 1280X1024 .28 NI (MacII)	$1219
VIEWSONIC 8 20" 1280X1024 .31 NI (MacII)	$1565
VIEWSONIC 20 20" 1600X1280 .28 NI (MacII)	$1825

MOTHERBOARD

386SX-33 with CPU	$99
386DX-40 with CPU/ 64 CACHE	$179
486DX-33/50/66 without CPU / 128K CACHE	$125
486DX-33/50/66 VL-BUS w/o CPU /128K	$145
486DX-33/50/66 EISA+ISA+VLB w/o CPU 128K	$265

NETWORK

3COM 3C509 ETHERLINK III COAX/TP	$139/145
3COM 3C503 8BIT COAX/TP ETHERNET	$179/199
3COM 3C503 ETHERLINKII 16 COAX/TP	$169/179
INTEL ETHEREXPRESS 16 COAX/TP	$135/139
LANTASTIC FOR MAC S/W KIT	$339
LANTASTIC Z (2 STATIONS) v.5.0	$89
LANTASTIC FOR MAC HW + S/W KIT	$549
LANTASTIC PRINT SERVER STATION WARE	$69
LANTASTIC FOR NETWARE (NETWORK O/S)	$139
NETWARE PRINT SERVER STATION WARE	$69
NETWORK EYE (REMOTE CONTROL ACCESS)	$129
NODERUNNER NR2000C (COAX)	$175
NODERUNNER NR2000T (10BASET)	$179
NOVELL NE2000 COAX/TP	$139/145
NOVELL NE3200 EISA COAX	$675
PEER-HUB AUI INTERFACE KIT	$270
PEER-HUB 10BaseT CONCENTRATOR	$270
SOUNDING BOARD ADAPTER KIT	$72

PRINTER

CANON BJ-200	$299
CANON BJ-200 DESKTOP	$349
HP DESKJET 500/500C/550C	$389/499/699
HP LASER JET IIP+	$749
HP LASER JET IIIP	$849
HP LASER JET 4/4M/4L/4Si	$1359/1865/685/3295
PANASONIC KXP1123/1124i	$195/259
PANASONIC KXP2023/2123	$199/239
PANASONIC KXP2124/2624	$319/365
PANASONIC KXP1624 132 COL	$349
PANASONIC KXP4410/4430 LASER	$599/685

TAPE DRIVE

ARCHIVE VIPER 2150S 150MB SCSI 6MB/m	$345
ARCHIVE VIPER 2525S 525MB SCSI 6MB/m	$525
ARCHIVE PYTHON 2GB DAT SCSI 512K INT	$995
ARCHIVE PYTHON 4GB DAT SCSI 512K INT	$1269
EXABYTE EXB8250 2GB SCSI-8mm HH INT	$1845
EXABYTE EXB8500 5GB SCSI-8mm FH INT	$2645
COLORADO DJ20 250MB QIC80 INT	$199
COLORADO TRAKKER 250 250MB EXT (PAR.)	$399
HILITE (ARCHIVE) 250MB QIC80 3.5" INT	$175
HILITE (ARVHIVE) 250MB EXT. (PAR.)	$379
MICROSOLUTION 250MB EXT. (PAR.)	$389

VGA CARD

TRIDENT 8900 SVGA w/1MB 1024X768	$59
PARADISE 1D SVGA w/1MB 1024X768	$75
CARDEX VL-BUS SVGA w/1MB 1280X1024	$98
ATI VGA WONDER XL24 w/MOUSE	$149
ATI GRAP.ULTRA PRO VRAM 2M ISA/VLB	$365/369
DIAMOND STEALTH 1M VRAM w/HI-COLOR	$195
DIAMOND STEALTH 24 1M 16M ISA/VLB	$175/185
DIAMOND STEALTH PRO 1MB ISA/VLB	$259/279
DIAMOND STEALTH PRO 2MB ISA/VLB	$359/369
DIAMOND VIPER VLB P9000 2MB VRAM	$399
GENOA 8500 1MB 16MIL COLOR VLB	$109
NUMBER 9 GXe LEVEL 10 ISA/VLB	$329/395
NUMBER 9 GXe LEVEL 11 ISA/VLB	$489/555
NUMBER 9 GXe LEVEL 12 ISA/VLB	$629/695
ORCHID FAHRENHEIT VESA 1MB 24 BIT	$169
ORCHID FAHRENHEIT P9000 VESA 3MB	$355
ORCHID PRODESIGNER IIs 1MB HI-COLOR	$149

CD-ROM SOFTWARE

AMERICAN BUS PHONE BOOK	$22
ANNABLE'S DRAMS - EGYPT	$79
ARTHUR'S TEACHER TROUBLE	$38
AUDUBON MAMMALS	$68
AUTHORWARE STAR FOR WINDOWS	$65
BATTLE CHESS	$38
BRING THE WORLD TO YOUR SENSES	$22
CARMEN SAN DIEGO	$32
CD STORE TIME	$21
CD STORYTIME DOS	$22
CDTW6PACK 6 PACK CD BUNDLE	$69
CHESS MASTER 3000 MPC	$29
CIA WORLD FACT BOOK	$32
COMPTONS MPC ENCLY	$75
DESERT STROM MPC	$29
DICTIONARY OF LIVING WORLD	$42
DTP PRO	$29
ELEC LIBRARY OF ART VOL. I	$32
FAMILY CHOICE	$29
FAMILY DOCTOR	$29
FAMILY EDUCATION COLLECTIONS	$25
GREAT CITIES -VOL2	$29
GUINNESS MPC DISK OF REC	$29
HOLY BIBLE	$35
JET & PROPS	$32
KING'S QUEST V	$27
KODAK PHOTO CD	$39
LIBRARY OF FUTUR 1st	$55
LOOM FROM LUCAS FILM	$22
LOTUS 123 V3.1	$89
MACMILLAN DICT. CHILDREN	$45
MACROMEDIA ACTION FOR WINDOWS	$38
MARKETING MASTER 1992	$22
MAVIS TEACHES TYPING MPC	$29
MAYO CLINIC FAMILY HEALTH CD (1993)	$49
MEDIA CLIPS - 4 PACK	$58
MICROPROSE COLLECTION ON CD	$38
MICROSOFT BOOKSHELF 1993	$55
MICROSOFT WORKS MPC	$55
MONKEY ISLAND	$25
NAT'L GEO MAMMALS	$38
OCEAN DIGITAL IMAGERY VI	$39
PC GRAPHIC & SOUND DEMO	$29
PC-SIG 10th ED DOS	$32
PLAYING W/LANGUAGE: SPANISH	$32
PLAYING W/LANGUAGE: FRENCH	$32
PLAYING W/LANGUAGE: ENGLISH	$32
PLAYING W/LANGUAGE. GERMAN	$32
PLAYING W/LANGUAGE. JAPANESE	$32
PRESIDENTS	$145
PUBLISH IT 2.0 DOS	$38
REFERENCE LIBRARY	$38
SECRET WEAPONS/LUFTWAFFE	$38
SHERLOCK HOLMES	$29
SO MUCH SHAREWARE I	$22
SO MUCH SHAREWARE II	$29
SOUND LIBRARY	$32
SPACE QUEST IV	$35
SPORTS BEST	$29
STELLAR 7 DOS	$29
THE FAMILY DOCTOR	$45
TIME MAGAZINE ALMANAC 1991	$29
TIME TABLE OF HISTORY	$25
TOOLWORKS ENCYCLOPEDIA	$75
TOTAL BASEBALL	$38
US HISTORY	$49
US HISTORY	$49
US ATLAS & AUTOMAP	$38
USA WARS. CIVIL WAR	$48
USA WARS: KOREA	$48
USA WARS: VIETNAM DOS	$48
VITAL SIGNS MPC	$95
WHALE OF TALE	$85
WING COMMAND & SECRET MISSION	$32
WIZARD MPC	$28
WORLD VIEW	$29

MAC CD TITLES ALSO AVAILABLE
PLEASE CALL FOR ITEMS NOT LISTED

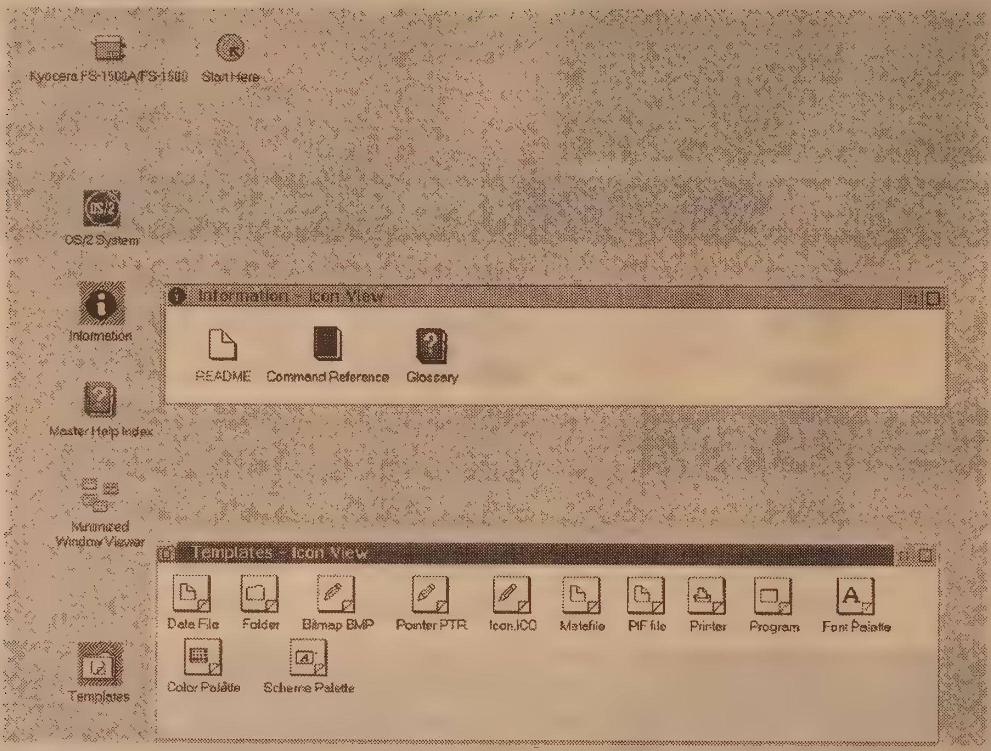


Figure 3

If the object is a folder, the window will display the icons of the objects contained in it. What actually happens in the window when nonfolder objects are open depends on the type of object.

Figure 1 shows the nine installed objects. Of them, five (OS/2 System, Templates, Information, Minimized Window Viewer, and Drive A) are folders, even though only Templates has a standard OS/2 folder icon. Start Here turns out to be a program; and the Printer (in my case, a Kyocera laser) is a device.

But already quirks in the object scheme are discernible. Even though the printer object is a device, not a folder, it contains, as we shall see, other, multiple objects (printer drivers). On the other hand, Drive A is a folder, even though it represents a physical device (see below). The Shredder could be considered a device, although not a physical one like the printer. And the Master Help Index is an object whose type does not fit any of the above documented types. Thus, it's not always possible to tell the object type by its icon, and you must either open—or query (more of this in the future)—the object for this purpose.

Note: Drive A is actually a shadow of the object representing Drive A. More on shadows in the future.

THE OS/2 SYSTEM FOLDER

Figure 2 shows the open OS/2 System folder. It contains five other objects (and maybe others, depending on your installed features), which are also open in the fig-

BERLIN TECHNOLOGY
1478 FRUITDALE AVE. SUITE #A SAN JOSE, CA. 95128
TELEPHONE : (408) 297-7138 FAX : (408) 297-7302

INTRODUCING : Spider Graphic
VESA LOCAL BUS
WINDOWS ACCELERATOR CARD
WITH 16.7MEG TRUE COLOR
AT AN AFFORDABLE PRICE:
SPiDER® Graphics, Inc.

DESIGN YOUR OWN PERSONAL PC
OUR SYSTEMS ARE BUILT TO YOUR NEEDS

386DX-40 w/ 128k cache
* AMD 80386-40 CPU
* 4MB RAM
* AMI BIOS & Math-Co Socket
* Internal Clock / Battery
* TEAC 1.2 & 1.44 Floppy Drives
* IDE 2HD, 2FD & IO 2s, 1g, 1p
* 120MB IDE Hard Drive
* ET4000 SVGA VIDEO CARD
* SVGA Monitor 1024X768 .28dp
* 101 Enhanced Keyboard
* Fancy Mini Tower Case
* LOGITECH 400dpi Mouse
* 230 Watts Power Supply
$929.00

486DX-33 w/128k cache
* INTEL 80486-33 CPU
* 4MB RAM 70ns
* AMI BIOS & Math-Co
* Internal Clock / Battery
* TEAC 1.2 & 1.44 Floppy Drives
* IDE 2HD, 2FD & IO 2s, 1g, 1p
* 120MB IDE Hard Drive
* ET4000 SVGA VIDEO CARD
* SVGA Monitor 1024X768 .28dp
* 101 Enhanced Keyboard
* Fancy Mini Tower Case
* LOGITECH 400dpi Mouse
* 230 Watts Power Supply
$1175.00

HARD DRIVES
40MB IDE HD.....call
80MB IDE HD....$129
120MB IDE HD...$157
130MB IDE HD...$164
170MB IDE HD...$180
210MB IDE HD...$202
250MB IDE HD..$235
340MB IDE HD..$314
500MB IDE HD..$648
1.2GB SCSI HD...$call
2GB SCSI HD.....$call

FLOPPY DRIVES
1.2MB FLOPPY.....$44
1.44MB FLOPPY...$42
2.88MB FLOPPY...$72
Dual Floppy 1.2 & 1.44 ....$122

CONTROLLERS
IDE 2Hd/2Fd 2s,1g,1p..$15
IDE Cache Controller..$97
VLB IDE 2HD, 2Flp....$42
MFM 2Hd/2Fd..........$call
Adaptec 1542C.........$212
Adaptec 1542bk Plus..$297

MOTHERBOARDS
All 486D Motherboards come with INTEL CPU's
ISA 386-33SX $80
ISA 386-33DX 64K...$135
ISA 386-40DX 128K..$129
ISA 486-25DX 128K..$295
ISA 486-33DX 256K..$380
ISA 486-50DX 256K..$515
ISA 486-66DX2 256k.$585

VIDEOS
ATI Ultra Pro 1MB/VLB 2MB$265/$365
ATI Graphic Ultra Plus w/2M........$275
ATI Graphic Ultra w/ mouse..........$207
Cirrus Logic VLB w/ 1MB.............$93
Diamond Stealth Pro VRAM w/1MB..$277
Diamond Stealth 24x w/1MB..........$159
Diamond Stealth Pro VRAM w/2MB.$299
ET4000 Hi-Color w/ $49
Orchid Fahrenheit VRAM w/1MB..$135
Orchid P9000 VLB w/3MB.......... $319
Spider Graphic VLB w/1MB............$92
TRIDENT 256K/512K/1M...$29/$35/$56

MISCELLANEOUS
Modem 2400..........................$27
Fax modem 2400/9600 w/WinFax...$49
Logitech Mouse.........................$15
Please Call For Other Accessories

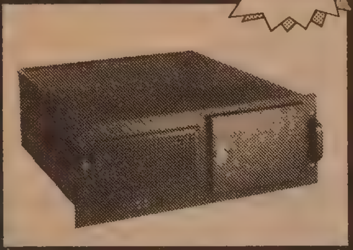
486 SYSTEM OPTIONS
486-DX2-50 INTEL.......................... ADD $ 90
486-50DX INTEL.............................. ADD $ 140
486-DX2-66 INTEL.......................... ADD $ 300
VLB Mother Board, IDE & VIDEO....ADD $ 82

280
680
FRUITDALE AVE.
880
SOUTHWEST EXP. WAY
MERIDIAN
N
BERLIN TECH

GREAT PRICING... GREAT SERVICE...
PHONE: (408) 297-7138 FAX: (408) 297-7302
Hours: Mon-Fri 9:30-6:00 Sat-Sun 10:30-3:00
Prices and availability subject to change without notice.
Not responsible for typographical errors.
One year parts & three years labor on all systems.

19" RACKMOUNT ENCLOSURE

CALL



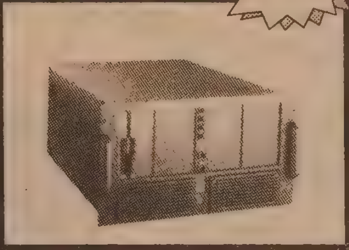
19" RACKMOUNT W/MONITOR

CALL

- •19" Rackmounting
- •Integral Monitor
- •10" .28 dot pitch SVGA Color
- •9" Mono-TTL or VGA
- •8 or 14 Slot Passive Backplane
- •8 Slot Motherboard Mounting

19" RACKMOUNT ENCLOSURE

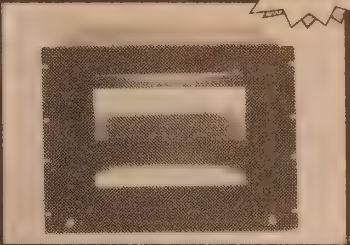
CALL



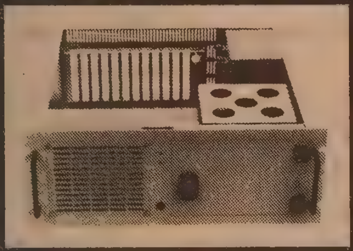
- • 8, 14 & 20 Slot Options
- •Dual Power Supplies
- •Power Supply Redundancy Option
- •8 Drive Bays
- •8 Fans
- •Motherboard or Passive Backplane
- •200-1000 Watt Power Supply
- •USA Manufactured

19" RACKMOUNT MONITOR KIT

CALL

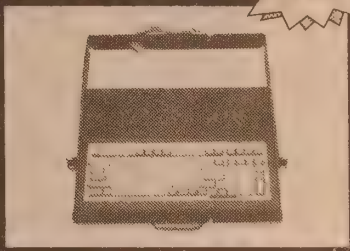


MADE IN U.S.A.

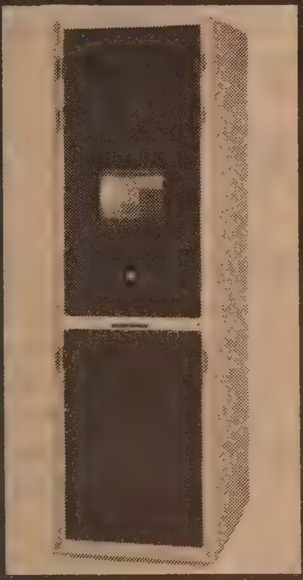


19" RACKMOUNT KEYBOARD

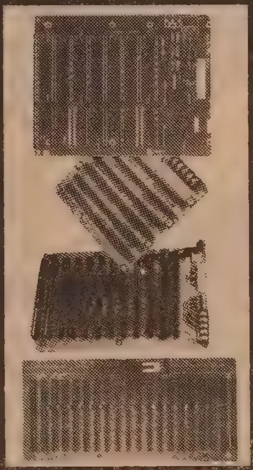
CALL



CENTRALIZED LAN SYSTEM



PASSIVE BACKPLANE BOARD

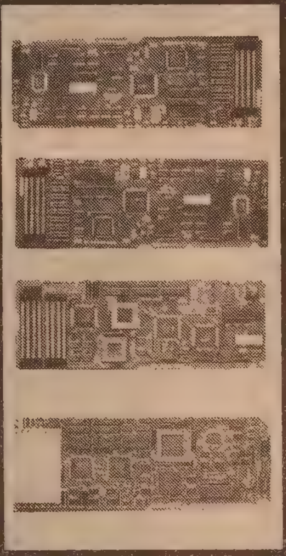


6 SLOT	$53
8 SLOT	$35
12 SLOT	$90
14 SLOT	$94
18 SLOT	$180
20 SLOT	$194

SPECIAL OPTION

- • 14 SLOT SEGMENTED 6,4,4
- • 18 SLOT SEGMENTED 5,4,4,5
- • 20 SLOT SEGMENTED 5,5,5,5

SINGLE CPU BOARD



Guaranteed high reliability: 100% SMD board.

286C-12 w/CPU $125
(w/8 Slots)

386SXC-16 w/CPU $220
386SXC-20 w/CPU $280
(w/8 Slots)

386DXC-33 w/CPU $380

486DXC-33 w/oCPU .$550
Upgradable To DX-50, DX2-50/66

Available with AMI & Phoenix BIOS

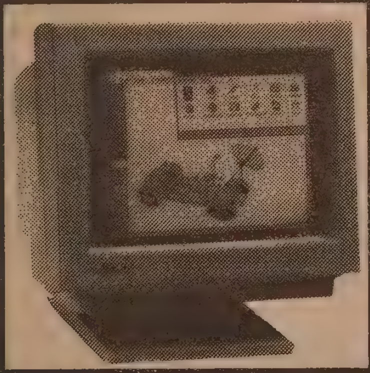
SYSTEMS FOR SALE

286C-12 CPU Card System	$248
386SX-16 CPU Card System	$430
386SX-20 CPU Card System	$440
386DX-33 CPU Card System	$515

*Basic System Configuration
- Mini Tower Case w/200W PS
- 1 MB RAM -1FDD
- 512K VGA
- 14" Mono VGA Flat Screen Hyundai Monitor
- 101 Keyboard

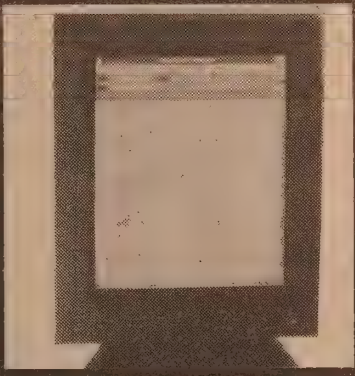
ACT!® CALL

BEST SELLING CONTACT MANAGER SOFTWARE FOR 5 STATION NETWORKS



15" SVGA MONOCHROME MONITOR

- • CRT 14" DIAGONAL NON-GLARE FLAT
- • DOT .28mm
- • RES: 1024 X 768 NON-INTERLACE, 800 X 600, 720 X 400, 640 X 480, 640 X 350
- • POWER SUPPLY: 120-240V AUTO SELECTION

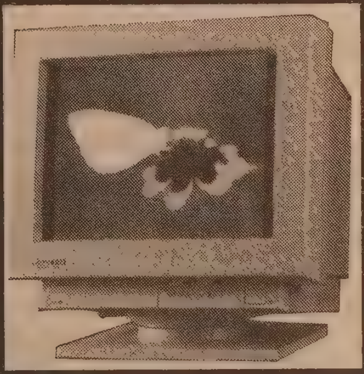


15" MACINTOSH FULL PAGE MONITOR

- •CRT: 15" DIAGONAL, NON-GLARE FLAT PAPER WHITE
- •MACINTOSH II, SE, SE/30 COMPATIBLE
- •RES: 640x872 FULL PAGE
- •POWER SUPPLY: 90 to 250V

15" PAPER WHITE VGA MONITOR

- •CRT 15" DIAGONAL NON-GLARE FLAT PAPER WHITE
- •RES: 640 x 600, 640 x 550, 640 x 350, 720 x 400, 640 x 480
- •POWER SUPPLY: 120V



15" MULTISCAN VGA COLOR MONITOR

- •CRT 15" DIAGONAL NON-GLARE FLAT
- •DOT .28mm PERFECT FLICKER FREE
- •RES: MULTISCAN NON-INTERLACE 640 x 480, 800 x 600, 1024 x 768
- •POWER SUPPLY: 90-260v

HYUNDAI

1. COLOR MONITORS

Model	DESCRIPTION	PRICE
HMC-423B	14" SUPER VGA .39 Dot Pitch	$248
HCM-421E	14" SUPER VGA .28 Dot Pitch	$300
HCM-431E	14" SUPER VGA .28 Dot Pitch Non-Int	$350
HCM-510EV	15" SUPER VGA .28 Dot Pitch Non-Int MPR II Flat Screen Multiscan	$468

2. MONOCHROME MONITORS

Model	DESCRIPTION	PRICE
HMM-413	14" Paper White Flat Screen VGA	$119
HMM-551	15" Portrait Paper White VGA	$254
HMM-550	15" Portrait Paper White VGA (MAC)	$260
Adapter For Apple Mac		$7.00

*WE WELCOME RESELLERS
*FOR MORE INFORMATION PLEASE CONTACT MULTI-MICRO SYSTEMS

Multi-Micro systems

TEL: (408) 456-0333
(800)-875-0333
FAX: (408) 456-0366

Terms & Conditions
Prices subject to change without notice. Not responsible for typos or errors. Prices based on cash. Please ask about products not listed in this advertisement. 1 year warranty on parts

62 Bonaventura Drive • San Jose, CA 95134 • Mon-Fri: 9am-6pm

MasterCard VISA

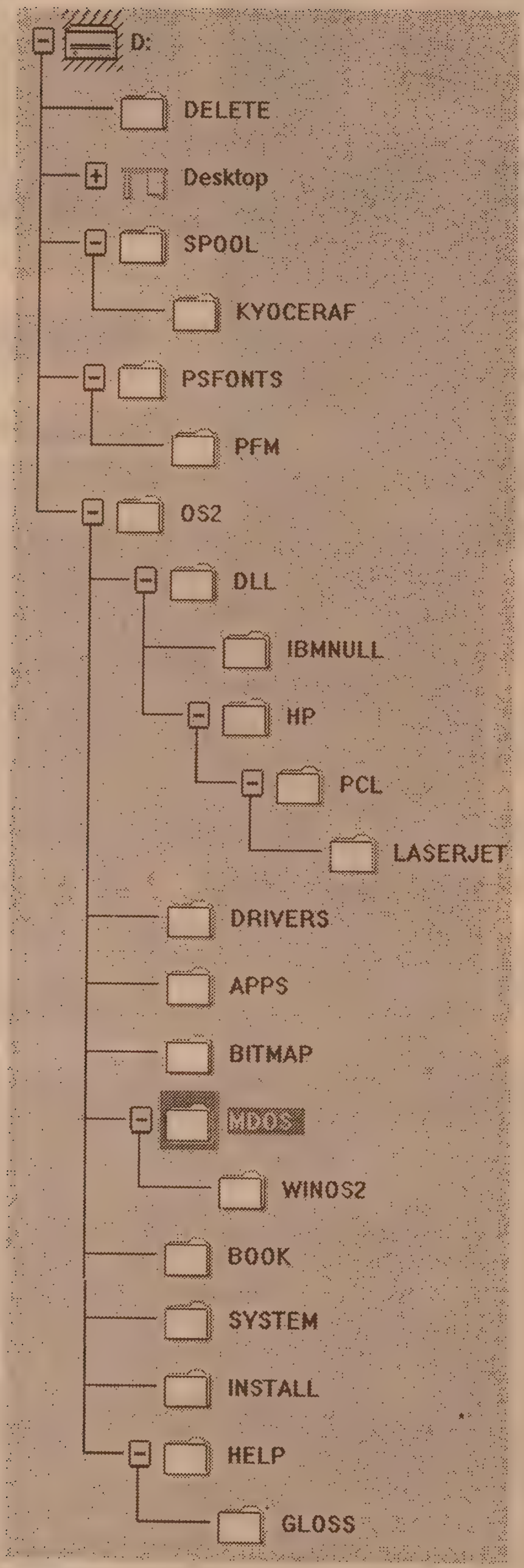


Figure 4

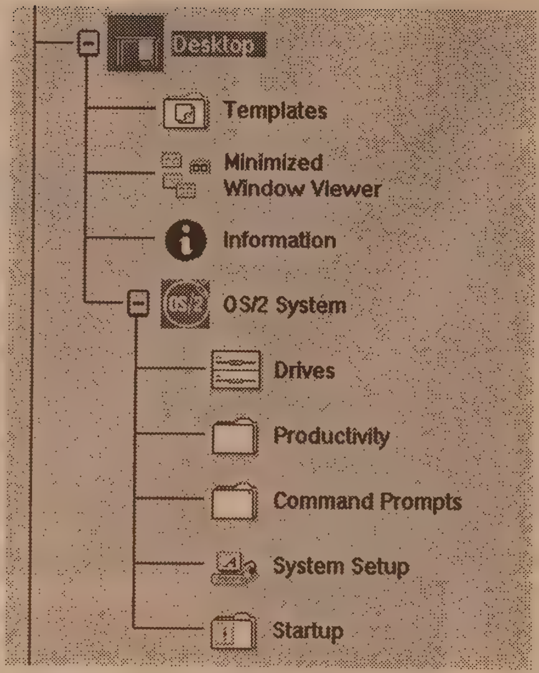
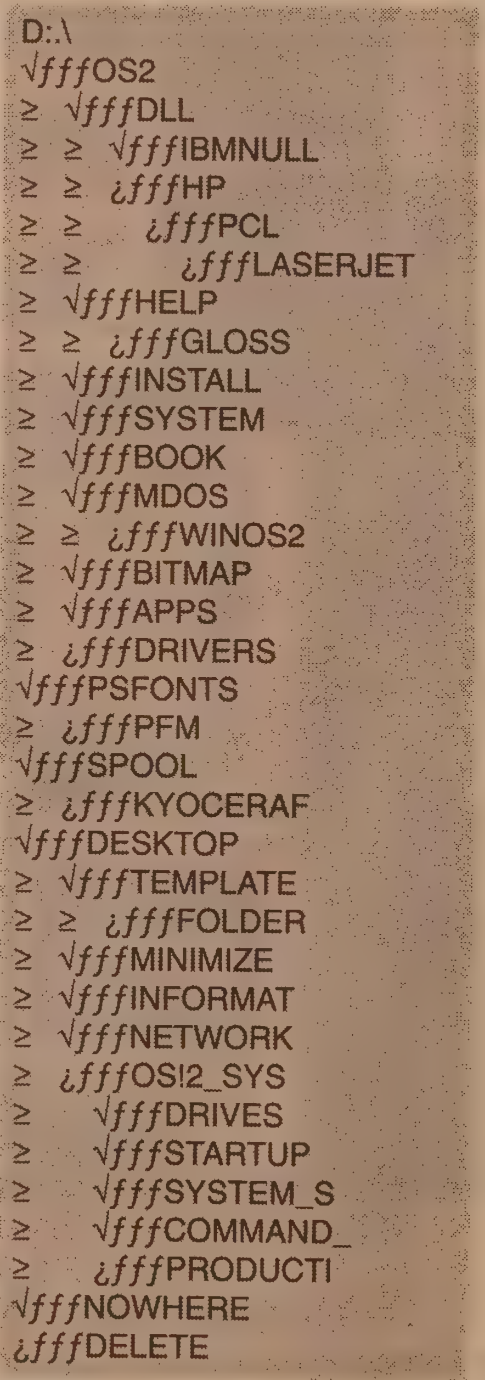


Figure 5



```
D:.\
√fffOS2
≥ √fffDLL
≥ ≥ √fffIBMNULL
≥ ≥ ¿fffHP
≥ ≥     ¿fffPCL
≥ ≥         ¿fffLASERJET
≥ √fffHELP
≥ ≥ ¿fffGLOSS
≥ √fffINSTALL
≥ √fffSYSTEM
≥ √fffBOOK
≥ √fffMDOS
≥ ≥ ¿fffWINOS2
≥ √fffBITMAP
≥ √fffAPPS
≥ ¿fffDRIVERS
√fffPSFONTS
≥ ¿fffPFM
√fffSPOOL
≥ ¿fffKYOCERAF
√fffDESKTOP
≥ √fffTEMPLATE
≥ ≥ ¿fffFOLDER
≥ √fffMINIMIZE
≥ √fffINFORMAT
≥ √fffNETWORK
≥ ¿fffOS!2_SYS
≥     √fffDRIVES
≥     √fffSTARTUP
≥     √fffSYSTEM_S
≥     √fffCOMMAND_
≥     ¿fffPRODUCTI
√fffNOWHERE
¿fffDELETE
```

Figure 6

ure. Productivity, Command Prompts, and Startup are clearly folders, but so are Drives and System Setup, despite their different icons.

Productivity contains three program objects: the System Editor, Icon Editor, and Clipboard Viewer. System Setup contains three folders (the Scheme, Color, and Font Palettes), and three program objects (Migrate Applications, Device Driver Install, and Selective Install), and five device objects, the System, Country, Mouse, Keyboard, and Sound. In the Startup folder you can put programs that you want to execute automatically at bootup.

The Drives folder contains one object for each system drive/partition. These objects represent physical devices, yet, as we shall see, they behave like folders: They contain all objects stored on the drive. Command Prompts adds another twist. It contains yet another type of object, the operating system session. When open, such a session allows you to interact with the system from the command prompt, in character mode. There are full screen and windowed DOS and OS/2 sessions, any number of which can be active simultaneously, depending on available memory and hard disk space. (If you installed WINOS2, the OS/2 Windows emulator, you also have Windows sessions.)

OTHER DESKTOP FOLDERS

Figure 3 shows the remaining four desktop folders open. Minimized Window Viewer contains all open objects (running tasks). The Information folder contains README, a data-file object copied during installation to your hard disk and, if you chose to install them, Command References and Glossary which do not neatly fit within the object scheme. The former is a program object, but already associated with a datafile; the latter, like the Master Help Index, is of its own type. The Templates folder contains yet another special type of object from which, as their name suggests, you can create new objects of certain types. We will tackle Templates and associations in future articles.

ABSTRACT FOLDERS VS. STORAGE DIRECTORIES

Figure 4 shows Drive D (the OS/2 system partition) open. As you can see, OS/2 installation creates many directories on your hard disk, and physically stores files in them. The storage directories are represented as folders.

Last month I advised storing OS/2 applications on a partition separate from the OS/2 system partition. It is an equally good idea to store each application in its own directory (most commercial applications will do that automatically). Then, if you open the drive representing the application partition, you will see the directories as folders containing application objects (or, if there are subdirectories, other folders).

LIFETIME LABOR PERSONALIZED SERVICE

R-COMPUTER

PERFORMANCE · RELIABILITY · SATISFACTION · PERFECTION

QUALITY AND PERSONAL SERVICE FOREVER!

486-33 W/128K CACHE

130MB HARD DRIVE SVGA SYSTEM

- 486-33MHZ W/128K CACHE CPU
- 4MB RAM
- 130MB MAXTOR HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 & 1.44MB FLOPPY DRIVE

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$1527

486-50 W/256K CACHE

245MB HARD DRIVE SVGA SYSTEM

- 486-50 W/256K CACHE CPU
- 4MB RAM
- 245MB MAXTOR HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 & 1.44MB FLOPPY DRIVE

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$1747

ULTRA-CADD 486-66 VLB

245MB HARD DRIVE SVGA SYSTEM

- 486 W/256K CACHE
- 8MB RAM
- 245MB QUANTUM HARD DRIVE

NEW VIEWSONIC 17 SVGA ULTRA HIGH 1600X1024 RESOLUTION MONITOR WITH 76HZ REFRESH RATE

- ORCHID P9000 WEITEK CO-PROC. VLB VIDEO CARD W/3MB
- 1.2 & 1.44MB FLOPPY DRIVE

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$3195

R-COMPUTER PAPERLESS OFFICE SYSTEM

- 486-33MHZ W/256K CACHE CPU
- 4MB RAM
- 340MB HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 & 1.44MB FLOPPY DRIVE
- HEWLETT PACKARD II SCANJET SCANNER
- PAGEKEEPER DATABASE OCR PAPERLESS OFFICE SOFTWARE

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$3131

intel inside

486-25

130MB HARD DRIVE SVGA SYSTEM

- 486-25MHZ CPU
- 4MB RAM
- 130MB MAXTOR HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 OR 1.44MB FLOPPY DRIVE

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$1337

COMPLETE 486 MULTI-MEDIA SYSTEM

- 486-33MHZ W/256K CACHE CPU
- 4MB RAM
- 130MB MAXTOR HARD DRIVE
- VIEWSONIC SVGA MONITOR
- SVGA CARD
- 1.2 & 1.44MB FLOPPY DRIVE
- MEDIA VISION
- PRO AUDIO SPECTRUM - 16 BIT
- TEXXEL CD ROM (300KB SEC/265 MS)

COMPLETE SYSTEM WITH DELUXE CASE AND KEYBOARD

$2146

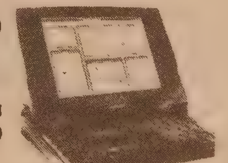
BCC NOTEBOOKS AVANTI 486 SLC

- 486SLC/25 MHZ PROCESSOR
- 130MB HARD DRIVE
- DOS
- HIGH CONTRAST 10" DISPLAY

$1549

Color Model

$2395



FREE TRAINING

VIEWSONIC MONITORS

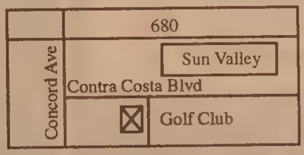
VIEWSONIC 2	$250
VIEWSONIC 4	295
VIEWSONIC 6	335
VIEWSONIC 5E	395
VIEWSONIC V7	949
MAG17F	1040
VIEWSONIC V8	1580
VIEWSONIC 15	565
17	1099
20	1840

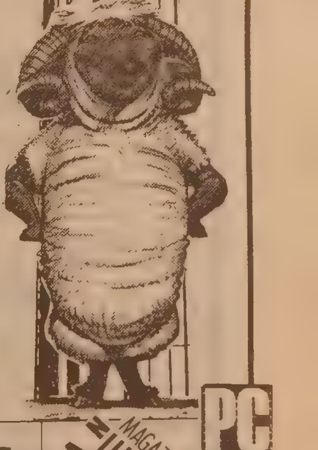
VIDEO GRAPHICS

TRIDENT 9000	$39
TRIDENT 8900	59
GENOA 24BIT	89
DIAMOND SPEEDSTAR PRO VLB	189
DIAMOND SPEEDSTAR 24	149
ORCHID PRO IIS	140
DIAMOND STEALTH	179
FAHRENHEIT 1280	179
ORCHID P9000	345
DIAMOND VIPER	395

PERSONALIZE SERVICE
WITH CUSTOM
CONFIGURATION

LANtastic Authorized Dealer





LIFETIME LABOR WARRANTY PERSONALIZED SERVICE

R-COMPUTER

SERVING YOU FOR 8 YEARS

(510) 798-4884

30 GOLF CLUB ROAD, PLEASANT HILL, CA 94523

PRICES SUBJECT TO CHANGE W/O NOTICE.

VISA MasterCard

THE INTEL INSIDE LOGO IS A REGISTERED TRADEMARK OF INTEL CORPORATION

LANtastic by ARTISOFT

LAN TIMES READERS CHOICE 1992

LAN MAGAZINE 1992 PRODUCTS OF THE YEAR

PC MAGAZINE EDITORS' CHOICE

But while for storage purposes you want each application in a different directory, you will probably want a different logical organization of your programs and data for the desktop. For example, I would like all OS/2 applications in an OS/2 Apps folder. Under DOS there is only one organization determined by the storage directory structure. OS/2 permits one or more logical organizations independent of the storage directory structure.

As we shall see later on, there is an easy way, using a template, to create "abstract" folders and drag any objects, including other folders, to it. OS/2 does create a new directory for each such "abstract" folder, but these are left empty; the files remain stored in their original directories. These abstract folders have their separate, "empty" underlying directory structure under the Desktop, and you can see it in Figure 5, which opens the Desktop icon at the top of Figure 4.

Figure 6 shows the OS/2 directory tree in character mode and, the abbreviated FAT names notwithstanding, you can recognize the desktop folders from their underlying (empty) directories: OS!2_SYS[tem], DRIVES, STARTUP, SYSTEM_S[etup], COMMAND_[Prompts], PRODUCTI[vity]), TEMPLATE[s] (containing a template of a folder (FOLDER)), MINIMIZE[d Window Viewer], and INFORMAT[ion]. (HPFS partitions allow for the full names.)

Note: OS/2 installation creates an OS!2_APPS directory (see Figure 6) and stores in it those built-in applications you choose to install. (This may complicate the organization scheme, requiring adjustments.)

Insulating users from the underlying storage details is, of course, beneficial. For example, consider the Printer: It is an object which contains several device objects (drivers), underlied by several physical directories in Figure 6, yet you only see a menu driven Printer object on the desktop. This, however, requires thorough and reliable transparent management of the internals, and vendors—including IBM—don't always prove up to the task. ■

WPS is a point-and-click, drag-and-drop graphical interface to an OS/2 system. You interact with WPS objects represented by icons, which represent physical and abstract entities in the system.

Networks • Imaging Systems • PC's • Desktop Publishing • All at E-Z Link

HOME OFFICE SYSTEMS

E-Z OFFICE SYSTEMS INCLUDES:
- Computer
- Color Monitor
- Printer
- Fax
- Modem
- Answering System with Mailboxes
- Digital Voice Recording & Playback
- Complete Accounting Package
- Windows Word Processor
- much more

E-Z Basic Home Office 486SLC2-50.......$2195
E-Z Intermediate Home Office...............CALL
E-Z Advance Home Office ....CALL

SYSTEMS

ALL SYSTEMS INCLUDE:
- IBM Motherboard
- 4MB RAM
- 1.2MB & 1.44MB Floppy
- SVGA Card with 1MB
- 14" SVGA Color Monitor

HD	486SLC-2/50	486SLC-2/66
170MB	$1395	$1525
240MB	$1425	$1559
340MB	$1495	$1645

NOVELL 5 STATION NETWORKS

FILE SERVER
- 486DX-50, 128K Cache
- 8MB RAM, 340MB Hard Drive
- 1.2 & 1.44 Floppy Drive
- Mono Card & Monitor
- Medium Tower Case
- 101 Keyboard, DOS 6.0

Novell Authorized Reseller

4 WORK STATIONS
386DX40, 128K Cache
- 4MB RAM
- 1.2 & 1.44 Floppy Drive
- SVGA Card w/1MB, SVGA Monitor
- Desktop Case, 101 Keyboard

$7395 Installation Extra

INCLUDES:
Novell 3.11 / 5-Intel, 16-Bit Ethernet Cards, Hub, 300' Cable, All Connectors included. Some restrictions apply.

NOTEBOOKS

TEXAS INSTRUMENTS
TM4000 WIN SLC/25
- 486SLC-25, 2MB RAM
- 80MB H/D, 1.44F/D, Mono VGA
- DOS 5., Windows 3.1

$1475

TOSHIBA
T4600C
- 486SL-33, 4MB RAM
- 120MB H/D, 1.44F/D
- Active Matrix Color Display

$3995

ULTRA SUB NOTEBOOK
- 486SLC-33, 4MB RAM
- 120MB H/D, Mono VGA
- Wt. Only 3.9lbs.

$1495

E-Z LINK TECHNOLOGIES, INC.

510•440•0950

43142 Christy St.
Fremont, CA 94538
Hours M-F 9-6
Sat by appointment

Not responsible for typographical errors, Prices subject to change without notice, Ad reflects Cash Prices.

SPECIALS

MAC 40MB Ext. Hard Drive	$175
MAC 170MB Ext. Hard Drive	250
Everex 2400 Pocket/Modem	29
HP LaserJet 4L	659
Samsung SyncMaster 3 Monitor	265

Limited Quantities on Specials

TEXAS INSTRUMENTS TOSHIBA ALR AST NEC SAMSUNG COMPAQ EPSON HEWLETT PACKARD Panasonic XANTE

Tower Computer.

1373 So. Bascom Ave, San Jose ,CA 95128

OVER 5 YEARS OF SERVICE IN THE BAY AREA.

MONITOR & VIDEO

14" S-VGA 1024x768 .39mm	$198
14" S-VGA 1024x768 .28mm	$240
14" S-VGA 1024x768 .28mm NI	$265
14" Acer S-VGA 33D .28mm	$270
14" Acer S-VGA 34T .28mm NI	$305
Sony 1304-S S-VGA .25mm NI	$540
Sony 1430-S S-VGA .25mm NI	$560
Sony 1604-S S-VGA.16" NI	$928
Sony 1730-S S-VGA 17" NI	$999
View Sonic 5E S-VGA 14"	$370
View Sonic 6E S-VGA 14"	$307
View Sonic 7 S-VGA 17"	$910
View Sonic 15 S-VGA 15"	$543
View Sonic 17 S-VGA 17"	$1068
Trident 16Bit 512Kb	$34
Trident 16Bit 1Mb	$60
ET-4000 with 1Mb	$68
Diamond Speed Star Pro	$110
Diamond Speed Star Pro VLB	$118
Diamond Stealth 24 VLB 1Mb	$148
Diamond Stealth Pro VRAM 1Mb	$248
Diamond Viper VLB 2Mb	$338
ATI-Graphic Ultra Pro VLB 2Mb	$338
Maxtrox Ultima VLB 2Mb	$795
Orchird Fahrenheit 1280 VLB	$148
Orchird-VA 1280 VLB	$218
Orchird Selsius VLB 2Mb	$268
Orchird-P9000 VLB 3Mb	$348
Other Call	$$$$

INTERFACE & ACCESSORIES

IDE Controller 2HD/2FD	$10
IDE 2 Ser, 1Par, 1Game	$15
IDE VLB 2 Ser, 1Par	$38
IDE Promise VLB Caching	$168
DTC-SCSI 3280 Controller	$98
DTC-SCSI-VLB Controller	$135
Adaptec 1542CK SCSI-Cont.	$248
Adaptec 1742 EISA-SCSI Contr.	$398
Wonder IDE 4 FD/2HD	$48
MFM controller	$45
Other Call	$$$

Teac 1.2Mb F/D	$48
Teac 1.44Mb F/D	$45
Combo 1.2M &1.44Mb	$145
Modem 2400	$38
Fax-Modem 24/9600	$65
Fax-Modem 14.400	$158
US Robotics 14.400	$168
Colorado 120Mb Tape B/U	$145
Colorado 250Mb Tape B/U	$178
Sound Blaster Deluxe	$78
Sound Blaster Pro Deluxe	$125
Audio Pro 16	$125

Texel CD-ROM **$345**
DM-3024

Sony CD - ROM **$205**
31-A w/Controller

Panasonic CD-ROM **$195**
CR-522 W/Controller

Mitsumi CD-ROM **$185**
LU-5S W/Controller

NEW HARD DRIVES

Maxtor 130Mb 15ms IDE	$165
Maxtor 213Mb 15ms IDE	$210
Maxtor 245Mb 15ms IDE	$230
Maxtor 345Mb 14ms IDE	$320
Maxtor 540Mb 12ms IDE	$698
Conner 120Mb 19ms IDE	$168
Conner 170Mb 14ms IDE	$195
Conner 250Mb 14Ms IDE	$265
Conner 340Mb 12ms IDE	$398
Conner 540Mb 12ms IDE	$695
W-Digital 213Mb 14ms IDE	$198
W-Digital 255Mb 13ms IDE	$238
W-Digital 340Mb 12ms IDE	$310
W-Digital 420Mb 12ms IDE	$438
W-Digital 540Mb 12ms IDE	$$$
Quantum 245Mb 16ms IDE	$298
Quantum 525Mb SCSI-II	$738
Quantum 700Mb SCSI-II	$898
Quantum 1 Gb SCSI-II	$1083
Quantum 1.2Gb SCSI-II	$1158
Fujisu 520Mb 12ms IDE	$698
Fujisu 520Mb SCSI-II	$735
Fujisu 1.2Gb SCSI-II	$1078
Fujisu 2.4Gb SCSI-II	$1898
Toshiba 1.2Gb SCSI-II	$999
Other Call	$$$

FREE INSTALLATION WITH ANY NEW DRIVE PURCHASE

Tower WILL MATCH price with any Brand Name Products.
WILL BEAT any Generic Products Price !!!

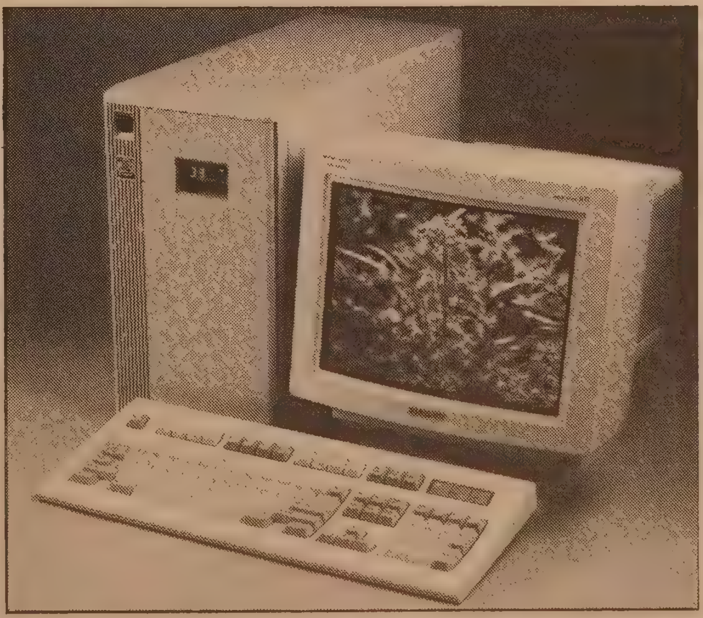
TCI-PLUS
Super Sonic VLB 486 Series Systems

- * Super Sonic Mother Board w/Intel CPU
- * 256KB Cache Memory Ext.
- * 4Mb of Memory Installed
- * IDE Controller 2 H/D & 2 F/D
  2 ser , 1 Pal , 1 Game Port
- * Teac 1.2Mb & 1.44Mb F/D
- * Orchird or Diamond 32Bit VLB
- * 14" S-VGA Color Monitor
  1024x768 .28mm Non-Interlaced
- * IDE 345Mb 14ms Hard Drive
- * KeyTronic 101 Enhanced Keyboard
- * Microsoft Mouse (Ser) 400 DPI
- * Mini Tower Case with UL & CSA
- * 100 % IBM Compatible

486 DX2-66Mhz	$1788
486 DX-50Mhz	$1718
486 DX2-50Mhz	$1668
486 DX-33Mhz	$1578

- ** Customize Configuration Available*
- ** Maximum 12 Hours turnaround for Services*
- ** 72 Hours Burn-In & Tested Before Delivery*
- ** 30 Days Money Back Warrantee.*
- ** Full One Year Parts*
- ** 5 Year Labors Warranty.*

SAVE 3% ON CASH PURCHASE !



TEL (408)288-6983, FAX (408)288-7120

VISA Mon - Fri : 10:00AM - 8:00PM , Sat 10:00AM - 5PM
1373 So. Bascom Ave , San Jose , CA 95128 MasterCard

TCI-SYSTEM
VESA BUS
386 / 486 Series

- * TCI- Mother Board w/Intel CPU
- * 128KB Cache Memory Ext.
- * 4Mb of Memory Installed
- * IDE Controller 2 H/D & 2 F/D
  2 ser , 1 Pal , 1 Game Port
- * Teac 1.2Mb & 1.44Mb F/D
- * S-VGA Graphic Card with 1Mb
- * 14" S-VGA Color Monitor
  1024x768 Interlaced
- * IDE 170Mb 14ms Hard Drive
- * KeyTronic 101 Enhanced Keyboard
- * Microsoft Mouse (Ser) 400 DPI
- * Mini Tower Case with UL & CSA
- * 100 % IBM Compatible

486 DX2-66Mhz	$1388
486 DX-50Mhz	$1328
486 DX-33Mhz	$1188
386 DX-40Mhz	$918

We Have Done Our Homework For The Latest Te

UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle U

Wanna bet on the latest VLB technology? Who can guarantee that the system you want can actually be built and work well? At UMiracle we keep searching around and find all the possible solutions for you - Which harddrive will work the best on VLBus? Which video card has the best value on the VL Bus? Which will support 50MHz? What video chipset should you use? Will it be safe to be on 50MHz VLB? What is Bus-Mastering? Do you need that? How about P5 Overdrive upgradeable? At UMiracle, We make them all work and work the best. Come to us, we have done the homework so you don't have to!

Multimedia CD Titles

No.	Description	Price	No.	Description	Price	No.	Description	Price
001	MICROSOFT CINEMANIA	$65	061	COMPOSER QUEST	$33	121	PRO PHONE 1993	$129
002	WING COMMANDER & ULTIMA VI	$35	062	CONSUMER INFORMATION	$33	122	PROGRAMMER'S ROM	$33
003	SO MUCH SHAREWARE II	$26	063	COREL ART SHOW 3	$63	123	PUBLISH IT! 2.0	$18
004	MICROSOFT BOOKSHELF	$43	064	CREATIVE/PROSONUS SOUND	$23	124	ROGER EBERT'S MOVIES COMPANN	$32
005	SLEEPING BEAUTY	$37	065	CROSSWORD CRACKER	$23	125	SAN DIEGO ZOO/ANIMALS	$22
006	COMPTON'S ENCYCLEPEDIA (MPC)	$55	066	DESERT STORM	$23	126	SECRET WEAPON OF LUFTWAFFE	$22
007	THE 7TH GUEST	$53	067	DINOSAUR ADVENTURE	$24	127	SEVENTH GUEST - VIRGIN GAMES	$53
008	DICTIONARY OF LIVING WORLD	$29	068	EDUCATION MASTER	$23	128	SFX-300 SOUND EFFECTS	$15
009	ARTHUR'S TEACHER TROUBLE	$23	069	ELECTRONIC LIB OF ART VI	$27	129	SHAKESPEARE	$22
010	BARNEY BEAR GOES TO SPACE	$19	070	ENCARTA BY MICROSOFT - DISTI	$295	130	SHAREWARE BONAZA	$43
011	BEAUTY & BEAST	$18	071	COREL DRAW V4.0	$385	131	SHAREWARE GOLD VOL. 2.0	$43
012	MACMILLAN DICTIONARY	$39	072	EUROPEAN RACER BY REVELL	$55	132	SHAREWARE/B	$45
013	MIXED UP MOTHER GOOSE	$20	073	FAMILY CHOICE	$25	133	SHAREWARE/CMP	$56
014	CARMEN SAN DIEGO - DELUXE	$21	074	FAMILY DOCTOR	$25	134	SHAREWARE/LT	$89
015	JONE IN THE LANE	$18	075	FAMILY DOCTOR MPC	$27	135	SHAREWARE/W	$59
016	PLAYING W/LANGUAGES - ENGLISH	$27	076	FAMILY EDUCATION COLLECTION	$24	136	SHERLOCK HOLMES VOL. 2.0	$67
017	SHAREWARE/WK	$45	077	FONT MASTER I	$19	137	SHERLOCK/CONSULT DET	$21
018	MARIO'S MISSING/WORLD ATLAS	$21	078	FONT MASTER 11	$23	138	SIMTEL MSDOS SHAREWARE	$17
019	MAYO CLINIC FAMILY HEALTH BK	$22	079	FUTURA GAMES	$18	139	SO MUCH SCREENWARE	$37
020	NATIONAL GEOGRAPHIC MAMMALS	$22	080	GAME MASTER	$19	140	SPACE ADVENTURE	$23
021	REFERENCE LIBRARY BY STW	$28	081	GAME PAK I	$23	141	SPACE SERIES APOLLO	$35
022	CHESSMASTER 3000 MPC	$18	082	GAME PAK II	$33	142	SPEEDWAY	$63
023	KINGS QUEST V	$18	083	GIFS GALORE	$17	143	STORYTIME	$23
024	SPACE QUEST IV	$22	084	GREAT CITIES VOL. 1.0	$21	144	STW GROLIER'S ENCY MPC	$45
025	STELLAR SEVEN	$19	085	GREAT CITIES VOL. 2.0	$21	145	SWIMWEAR 1993	$29
026	ALL BEAUTIES	$28	086	GUINESS DISC MPC 1993	$23	146	TEMPRA KODAK ACCESS S/W	$18
027	ADULT REFERENCE LIBRARY	$28	087	HOT STUFF 2.0	$25	147	TERRORIST GROUP PROFILES	$31
028	GIRLS OF VIVID VOL. 1.0	$48	088	INDIANA JONES FATE ATLANTIS	$53	148	TIME ALMANAC 1991	$24
029	GIRLS OF VIVID VOL. 2.0	$48	089	KGB WORLD FACT BOOK	$33	149	TIME TABLE OF HISTORY - SCIENCE	$21
030	ASIAN LADIES	$46	090	KILLER TRACK CD-MUSIC LIB	$17	150	TOTAL BASEBALL	$20
031	ABOUT COWS	$29	091	KODAK PHOTO ACCESS	$23	151	TRUE TYPE EXPLOSION FONTS	$22
032	ADVENTURE OF WILLY BEAMISH	$19	092	LET'S PLAY	$18	152	U.S. ATLAS	$16
033	AIRCRAFT ENCYCLEPEDIA	$33	093	LIBRARY OF THE FURTURE 1ST	$43	153	U.S. ATLAS W/AUTOMAP	$22
034	AMER BUSINESS PHONEBOOK 1992	$21	094	LOOM	$19	154	U.S. HISTORY	$18
035	AMERICAN VISTA	$31	095	LOVELY LADIES	$33	155	U.S./WORD ATLAS PACK	$20
036	ANIMALS ENCYCLEPEDIA MPC	$33	096	MAGAZINE RACK	$29	156	U.S.A. STATE FACT BOOK	$33
037	ARCADE BATTLES	$21	097	MANHOLE	$34	157	VARIETY STORE	$18
038	ARIS JETS & PROPS 2 DISKS	$25	098	MANTIS EXPERIMENTAL FIGHTER	$22	158	VGA SPECTRUM SOUND LIBRARY	$16
039	ARIS WILD PLACES	$21	099	MAVIS BEACON TYPING 2.0 MPC	$21	159	WIZ-PAK SHAREWARE	$15
040	ARIS WIZARD TEST AND TUNE UP	$21	100	MEDIA CLIPS-4 PAK	$39	160	WOMAN IN MONITOR	$57
041	ARIS WORLD VIEW	$21	101	MIRROR MIRROR	$19	161	WORLD ATLAS MPC	$16
042	AUDUBON BIRDS	$23	012	MONKEY ISLAND - ENGLISH	$19	162	WORLD OF FLIGHT	$29
043	AUDUBON MAMMALS	$23	103	MUSICAL INSTRUMENTS	$64	163	WORLD OF TRAINS	$29
044	BARNEY BEAR GOES TO SCHOOL	$21	104	NATIONAL PARKS	$27	164	WORLD VISTA	$29
045	BARRON'S COLLEGE GUIDE	$25	105	NITEOWL 9 SHAREWARE	$33	165	ANIMATED FANTASIES VOL. 1.0	$37
046	BATTLE CHESS	$21	106	NORTH AMERICAN FAX BOOK	$34	166	ANIMATED FANTASIES VOL. 2.0	$37
047	BEETHOVEN BY MICROSOFT - DISTI	$69	107	OCEAN DIGITAL IMAGERY VOL. 1.0	$29	167	GIRLS OF VIVID BEST	$48
048	BRAIN DRAIN	$21	108	OLDIES BUT GOODIES	$18	168	HOT PIX ECSTASY	$37
049	BUS & ECON WORLD ATLAS	$26	109	OS/2 ARCHIVES	$19	169	HOT PIX VOL. 2.0	$37
050	BUSINESS BACKGROUND	$44	110	OUR SOLAR SYSTEM	$17	170	HOT PIX VOL. 3.0	$37
051	BUSINESS MASTER	$23	111	PACIFIC ISLAND	$39	171	HOT PIX VOL. 5.0	$37
052	CALIFORNIA COLLECTION	$21	112	PC MEDIC	$29	172	HOUSE OF SLEEPING BEAUTY	$49
053	CAREER OPPORTUNITIES	$29	113	PC SIG 11 SHAREWARE	$18	173	PHYXICAL THERAPY	$35
054	CHESSMANIA	$43	114	PC SIG 12 SHAREWARE	$23	174	PORKWARE VOL. 2.0	$39
055	CICA WINDOWS	$18	115	PETER AND THE WOLF	$19	175	STORM VOL. 1.0	$35
056	CINEMANIA BY MICROSOFT - DISTI	$69	116	PHOENIX 3.0 SHAREWARE	$18	176	STORM VOL. 2.0	$35
057	CLIP ART HEAVEN	$25	117	PLAYING W/LANGUAGES - FRENCH	$27	177	STORM VOL. 3.0	$35
058	CLIP ART GOLIATH	$19	118	PLAYING W/LANGUAGES - GERMAN	$27	178	SOUTHERN BEAUTIES	$48
059	COLOSSAL COOKBOOK	$18	119	PLAYING W/LANGUAGES - JAPANESE	$27	179	WOMEN OF VENUS	$30

- ☑ Free Local Area Delivery for system Purchase
- ☑ 1 Year Parts and Life Time Labor Warranty
- ☑ Expertise LifeTime Technical Support
- ☑ 30 Day Money Back Compatiblity Guarantee

ISA VESA Local Power Station

- ○486 ISA VESA LocalBus 256K Cache Motherboard
- ○4MB 70ns SIMM RAM (1M-70ns SIMMx4)
- ○1.2M & 1.44M TEAC Floppy Drives
- ○213MB Western Digital Harddisk 64K Cache
- ○Promise DC2000 VLB 32Bit IDE Controller with I/O
- ○SPiDER VLB 1MB Windows Accelerator
- ○14" 1024X768 0.28DP Impression Monitor
- ○Premium Mini Tower 230W PS
- ○101 Enhanced Keyboard

486-33SX	$1256
486-33DX	$1382
486-50DX/2	$1446
486-66DX/2	$1570

Don't just blindly look for the lowest prices! Regular ISA system is bottle-necking with it's 8MHz AT bus. Even with a fast CPU, it's like a three hundred horse-powered YUGO, harddisk and video performances are limiting the overall performance. Think smart and get a well-balanced VESA LocalBus system for now, and for your future. Spend a little bit more, break the 8MHz AT Bus bottleneck and run the video and harddisk at the same speed that CPU is running! With this fully-tested VLB motherboard, we can guarrantee that you won't run into any incompatibility problem! And with our Promise 32Bit VLB IDE controller and 32Bit VLB video accelerator, harddisk transfer performance TRIPLES! Video runs at least (not Up to!!) TEN TIMES faster in both DOS and Windows than Regular ISA computer. Come on in and get a test-drive on this amazing machine! You have to see it to believe it!

Recommended Upgrades:	
Orchid Fahrenheit VLB STD/VA/Celsius	add$50/100/140
Diamond SpeedstarPro/Stealth 24/Pro/Viper	add$15/65/190/284
Promise 1/4/16MB Cache VLB 4030VL	add$193/358/858
Western Digital HD 250/340/420MB	add$30/100/220
UltraStor SCSI-2 VLB 34F + SCSI HD	add$Call
Premium DeskTop/Med/Full Tower	add$5/25/45
KFC 14"/15"/17" Multisync Monitor	add$105/195/555
Sony/NEC/Viewsonic/Nanao/Mag	add$Call
Mouse/DOS V6.0/Windows V3.1	add$Call/49/59

[illegible]

AIR ISA VESA Local Power Station

- ○486 AIR ISA 3 Slot VESA LocalBus 256K Cache Motherboard
- ○4MB 70ns SIMM RAM (1M-70ns SIMMx4)
- ○1.2M TEAC & 2.88M TOSHIBA Floppy Drives
- ○250MB IDE Western Digital 64K Cache Harddisk
- ○VLB 32Bit IDE Controller with 2 Hi-Speed I/O and 2.88MB Support
- ○SPiDER VLB 1MB Windows Accelerator
- ○14" 1024X768 0.28DP Impression Monitor
- ○Premium Mini Tower 230W PS
- ○101 KeyTronic Keyboard

486-33SX	$1413
486-33DX	$1539
486-50DX/2	$1603
486-50DX	$1667
486-66DX/2	$1727

We just keep improving! 2.88MB floppy drive used to be highly-priced and floppy controller chipset for 2.88MB was expensive! Not untill now! For only 10 bucks more and you can get ready for the future! And remember, 2.88MB is downward compatible with 1.44M and 720K, so you will have no problem reading or writing. Plus our high-speed UART 16550 buffer chips for COM1 and COM2 - a must for true Windows Multi-tasking, background serial port/modem smooth data transmission, you just won't lose buying from us. And with our name brand AIR motherboard, you get 3 VLB slots, all with Bus mastering capability, 50MHz VLB compatiblity, Intel P5 Overdrive support and GUARRANTEED future compatiblity, you are definitely buying into future with this motherboard! No one can offer you this perfect machine at this perfect price, we guarrantee it!

Recommended Upgrades:	
Orchid Fahrenheit VLB STD/VA/Celsius	add$50/100/140
Diamond SpeedStarPro/Stealth 24/Pro/Viper	add$15/65/190/284
Promise 1/4/16MB Cache VLB 4030VL	add$152/317/817
Western Digital HD 213/340/420MB	add$-30/70/190
UltraStor SCSI-2 VLB 34F + SCSI HD	add$Call
Premium DeskTop/Med/Full Tower	add$5/25/45
KFC 14/15/17" Multisync Digital Monitor	add$105/195/555
Sony/NEC/Viewsonic/Nanao/Mag	add$Call
Mouse/DOS V6.0/Windows V3.1	add$Call/49/59

Guarantee the feature-richest you can find, anywhere on the market!

AIR EISA VESA Local Power Station

- ○486 AIR EISA 3 Slot VESA LocalBus 256K Cache Motherboard
- ○16MB 70ns RAM 72 Pin SIMM
- ○1.2M & 1.44M TEAC Floppy Drives
- ○345MB Maxtor SCSI 14MS Harddisk 64K Cache
- ○Ultrastor 34F SCSI-2 Bus-Mastering Controller
- ○Diamond Viper VLB 2MB VRAM Windows Accelerator
- ○ Impression 17" 1280X1024NI - Exactly MAG 17F like!
- ○Premium Full Tower 250W PS
- ○IDE I/O 2S/1P/1G
- ○101 KeyTronic Keyboard

486-33SX	$3499
486-33DX	$3625
486-50DX/2	$3689
486-66DX/2	$3813

The highest-end you can find! AIR EISA VESA LocalBus Motherboard supports P5 Overdrive, ZIF Socket for easy upgrade & 256MB Memory on board. Yes! 256MB using 72Pin 64MB SIMM! (Soon to be released) Great news for Imaging and Photographic software users! And with full 8 EISA slots and 3 VESA LocalBus extensions, you can plug in any different bus cards you want! We bundle this machine with a Bus-Mastering SCSI-2 VLB Controller and rockets the Data Transfer Rate to close to 10MB/Sec! This amazing controller supports 7 hard drives and transfers up to 66MB/Sec. Besides we add the ultimate Windows Accelerator Diamond Viper and make the Windows fly at the highest possible WinMarks. Believe it, you won't find a machine performs closer to this at any price!

Recommended Upgrades:	
2.88MB Floppy Drive + Controller	add$46
Promise Cache VLB 4030VL+IDE HardDisk	add$Call
SCSI HardDisk	add$Call
Sony/NEC/Viewsonic/Nanao/Mag	add$Call
Mouse/DOS V6.0/Windows V3.1	add$Call/49/59

See this machine with Windows NT 3.1 running in our showroom!

Phone: 510-226-6746
Fax:510-226-6758
Mon to Sat 9:00AM-6:00PM PST

ATM COD

Reminder: It makes no sense to buy an VLB system without Harddisk Controller and Video card on VLB. You aren't taking the advantage of the VLB! Be careful!

nology. VESA Local Bus, You Can Count On Us!

le UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle UMiracle

Orchid Super VESA LocalBus Station

- ○Orchid SuperBoard 486 VLB 2 Slot 256K Cache Motherboard
- ○4MB 70ns SIMM RAM (1M-70ns SIMMx4)
- ○1.2M & 1.44M TEAC Floppy Drives
- ○213MB Western Digital Harddisk 64K Cache
- ○Orchid VESA LocalBus 32Bit IDE Controller with 2S/1P/1G
- ○Orchid Fahrenheit VLB 1MB w/ S3-805 Chipset 24Million Winmarks
- ○14" 1024X768 0.28DP Impression Monitor
- ○Premium Mini Tower 230W PS
- ○101 Enhanced Keyboard

486-33SX	$1367
486-33DX	$1493
486-50DX/2	$1557
486-66DX/2	$1681

Orchid's Second Generation Superboard 486 VLB, the minibaby AT-sized motherboard built with an unrivalled feature set. This unique motherboard rounds out Orchid's family of VLB products to provide complete VLB solution. With Orchid's new VLB IDE I/O card and Orchid Fahrenheit VLB, you simply won't find anything that's faster and more reliable. A complete VESA LocalBus solution from Orchid! Fahrenheit VLB VA with Voice Annotation capability lets you speak to your computer rather than type.All new optional upgrade Celsius VLB uses the IIT AGX015 graphics processor and high performance VRAM and cranks out 38.8 Wintach 1.2 overall RPM test, compared to 20.34 on ATI VLB Mach 32. Come by and try the difference!

Recommended Upgrades:

Orchid Fahrenheit VLB VA/Celsius 1/2MB	add$50/90/145
Diamond SpeedstarPro/Stealth 24/Pro/Viper	add$-35/15/140/234
Promise 1/4/16MB Cache VLB 4030VL	add$172/337/837
Western Digital HD 250/340/420MB	add$30/100/220
UltraStor SCSI-2 VLB 34F + SCSI HD	add$Call
Premium DeskTop/Med/Full Tower	add$5/25/45
KFC 14"/15"/17" Multisync Monitor	add$105/195/555
Sony/NEC/Viewsonic/Nanao/Mag	add$Call
Mouse/DOS V6.0/Windows V3.1	add$Call/49/59

astest Video Performance at this price range!

Diamond FastBus VLB Power Station

- ○486 Diamond FastBus VLB 256K Cache Motherboard w/ IDE I/O
- ○8MB 70ns RAM 72 Pin SIMM
- ○1.2M & 1.44M TEAC Floppy Drives
- ○340MB IDE Western Digital 64K Cache Harddisk
- ○Diamond Stealth 24 VLB 1MB Windows Accelerator
- ○KFC 15" 1280x1024NI Multisync, Digital Controlled, Flat Screen
- ○Premium Medium Tower 230W PS
- ○101 KeyTronic Keyboard

486-33SX	$1912
486-33DX	$2038
486-50DX/2	$2102
486-66DX/2	$2226

Accept only the finest! We don't vaguely write down what you will get, we just specifically state here what will be on the system. Unlike buying from our competitors, you know what you will get when you are reading this. No gimmicks, No tricks! Value-added engineering closely couples Diamond FastBus VLB motherboard and Stealth 24 accelerator to ensure speed and performance in DOS, Windows and AutoCAD. Flash-ROM BIOS means updating the BIOS is like copying a file to BIOS, that easy! Supporting 72Pin SIMM means memory is upgradeable to 128MB. Supporting Weitek 4167, Programmable Fast I/O, Bus-Mastering VLB, and a lot more! We combined this machine with 340MB, 8MB RAM, 15" Digital Controlled monitor just to make sure it will roll years down the road!

Recommended Upgrades:

Diamond Stealth Pro/Viper	add$125/219
Promise 1/4/16MB Cache VLB 4030VL	add$220/385/885
Western Digital HD 213/250/420MB	add$-100/-70/120
UltraStor SCSI-2 VLB 34F + SCSI HD	add$Call
Premium Mini/Desktop/Full Tower	add-25/-20/20
KFC 14/17" Multisync Digital Monitor	add$-90/360
Sony/NEC/Viewsonic/Nanao/Mag	add$Call
Mouse/DOS V6.0/Windows V3.1	add$Call/49/59

[illegible]

Components/Upgrades

Motherboard(without CPU), (Call for CPU Prices)

386/486 ISA 128K - 386/486 CPU support	$100
486 ISA VLB 256K - P24T support	$120
486 AIR ISA VLB 256K - 3 VLB slots, upto 50MHz ZIF, P24T support, bus-master	$185
Memory Expansion Card 32MB for AIR ISA VLB	$95
486 AIR Full EISA VLB - 3 VLB Slots, upto 50MHz upto 256MB by 72Pin SIMM, ZIF, P24T support 8 EISA slots + 3 VLB (256/512K)	$380/460
486 Orchid VLB SuperBoard 256K 2 VLB slots, bus-master	$160
486 Diamond FastBus VLB 256K Cache - uses 72Pin SIMM Onbrd IDE I/O, 2 VLB slots, ZIF, bus-master	$200

CPU & Memory: (Call to Confirm, Subject to change daily!)

Pentium P5/P24T Overdrive CPU	$Call
Intel 486 25SX/33SX/33DX/50DX2/50DX/66DX2	$Call
AMD 486-40DX (Pin to Pin Compatible with Intel)	$Call
1MB DRAM (44256-70ns DRAMx8)	$45
1MB RAM (256K-70ns SIMMx4)	$55
4MB RAM (1M-70ns SIMMx4)	$220
16MB RAM (4M-70ns SIMMx4)	$720
72Pin 70ns SIMM (4/8/16/32MB)	$230/440/750/1980

I/O Card/Controller Card/Network Card

Single/Dual Printer Card	$12/18
AT I/O 2S/1P/1G	$12
AT I/O 2S/1P/1G w/ 2 HiSpd UART 16550's	$45
16Bit IDE 2FD/2HD Controller	$12
16Bit IDE 2FD/2HD with 2S/1P/1G	$14
16Bit IDE 4FD/2HD 2.88MB support	$39
16Bit IDE 4FD/2HD 2S/1P 2.88MB support	$49
QuickPath Port-Folio 16550 13-Port I/O Card	$125
IDE Caching Controller Upto 64MB, 2HD/4FD	$105
Promise DC-2000 VLB IDE w/ I/O	$39
VLB IDE 2FD/2HD w/I/O Support 2.88MB, with 2 HiSpd UART 16550's, 1 Parallel	**$80**
Orchid VLB IDE Controller w/ I/O	$60
DTC 2270VL VLB IDE w/ I/O	$75
Promise DC-4030VL VLB IDE w/ 1MB Cache	$165+55
UltraStor 34F SCSI-2 VLB Bus-Mastering	$265
UltraStor Software Driver Kit for 34F	$45
BusLogic BT445S VLB SCSI-2, Bus-Mastering w/ Floppy Ctrl & Driver Kit	$280
Adaptec 1522B/1522BK SCSI Controller	$95/140
Adaptec 1542C/1542CK SCSI Controller	$200/235
Adaptec NEW 2742 EISA SCSI-2 Controller	$385
AIR NEW QAccess Fast SCSI-2 VLB Controller Bus-Mastering with VLB IDE and 2S/1P/1G	$205
AIR VLB 32Bit Ethernet Adaptor	$190
Ethernet NE2000 Adaptor Coaxial/10 Base-T	$55

Video Card:

16Bit 512K/1MB Trident SVGA 1024x768	$35/55
16Bit 1MB Tseng-4000 72Hz 32K Color	$75
Tseng ET4000 VESA LB 1280x1024 16.7M Color	$95
SPiDER Cirrus Logic VLB 1MB/2MB Accelerator	$95/140
SPiDER Black Widow VLB Accelerator 1MB/2MB	**$215/270**
Orchid Fahrenheit VLB STD(Upto 50MHz) 1/2MB	$145/190
Orchid Fahrenheit VLB VA (Upto 50MHz) 1/2MB	$195/240
Orchid Celsius VLB 1MB/2MB	$235/290
Diamond Speedstar Pro VLB 1MB/2MB	$110/155
Diamond Stealth 24 VLB 1MB DRAM S3-805	$160
Diamond Stealth Pro VLB 1/2MB VRAM S3-928	$285/340
Diamond Viper VLB 2MB VRAM 44M Winmarks	$379
AIR Star2000 VLB w/ Weitek Power 9000 2MB	$385
ATI Ultra Pro VLB 2MB VRAM 30M Winmarks	$330

Monitor:

14" Monochrome Monitor	$90
Impression 14" 1024x768x0.39DP	$205
Impression 14" 1024x768x0.28DP	$250
Impression 14" 1024x768NIx0.28DP	$270
Impression 17" 1280x1024x0.26DP, BEST BUY!! Exactly MAG 17F like, just logo is different!	**$885**
KFC 14" Multisync, 1024x768NIx0.28DP, BEST BUY!! Digital-Control,Non-Glared	$355
KFC 15" Multisync,1280x1024NIx0.28DP, BEST BUY!! Digital-Control,Non-Glared,Flat-Screen	$445
KFC 17" Multisync,1280x1024NIx0.26DP, BEST BUY!! Digital-Control,Non-Glared,Flat-Screen	$805
MAG 15F 15" 0.28DP 30-68KHz, 1280x1024NI	$530
MAG 17F 17" 0.26DP 30-68KHz, 1280x1024NI	$950
Viewsonic 5E 14" 0.28DP 1024x768NI 72Hz	$360
Viewsonic 6E 14" 0.28DP 1024x768NI	$315
Viewsonic 15 15" 0.28DP 1280x1024NI Digi.Cntrl	$520
Viewsonic 17 17" 0.28DP 1600x1280NI Digi.Cntrl	$1080
Viewsonic 20 20" 0.28DP 1600x1280NI Digi.Cntrl	$1750
Viewsonic 21 21" 0.26DP 1600x1280NI Digi.Cntrl	$Call
Nanao F340iW 15" 0.28DP 1024x768NI	$660
Nanao F550iW 17" 0.28DP 1280x1024NI	$1075
Nanao F560iW 17" 0.26DP 1280x1024NI	$1650
Nanao F660i 20" 0.31DP 1600x1280NI	$2450
Nanao F750i 21" 0.31DP 1600x1280NI	$2095
NEC 3FGe 15" 0.28DP 1024x768NI 60Hz	$585
NEC 4FGe 15" 0.28DP 1024x768NI 76Hz	$690
NEC 5FGe 17" 0.28DP 1024x768NI	$1150
NEC 6FGe 21" 0.28DP 1280x1024NI	$2395
NEC 3FG/4FG Filtering Lense	$75
NEC 5FG/6FG Filtering Lense	$110/185

Modem:

2400 Baud Send-Fax Internal + Bitcom + Bitfax	$30

[illegible]

2400 Baud with V42bis 9600 Send/Receive Fax Internal + Bitcom + Bitfax for Windows	$48
14.4K Baud V.32Bis V.42Bis MNP5 14.4K S/R Fax Bitcom + Bitfax Internal/External	$140/187
US Robotics Sportster 14.4K Data/Fax V32.bis, V.32, V.42 Internal/External	$185/195
Intel Satisfaxtion Modem/400e Internal/External	$395/425

Floppy Drive/Tape Backup:

Teac 1.2M 5.25"/1.44M 3.5"/2.88M 3.5"	$53/48/95
Teac Dual 1.44M & 1.2M	$135
Toshiba 2.88M 3.5"	$59
Archive 250MB TapeBackup Internal	$155
Colorado 250MB TapeBackup Internal	$185
Tape Cartridge DC2120 for 250MB QIC-80	$20

KeyBoard/Mice/Software/Chassis/Misc:

101 Chicony Enhanced	$20
KeyTronic 101 Enhanced	$30
Focus 2001 101 Enhanced Click	$36
Focus 8000 111 with Calculator	$40
Focus 9000 129 Programmable with Calculator	$60
NorthGate OmniKey 101	$70
NorthGate OmniKey 102	$70
NorthGate OmniKey Ultra	$95
MS Compatible 3-Button Mouse	$15
Logitech First Mouse/Trackman	$30/75
Logitech Mouseman Serial/Bus	$45/65
Logitech Mouseman Cordless	$85
New MicroSoft Ergonomic Serial Mouse V2.0	$55
MS DOS 6.0/Windows V3.1 Original (Registerable)	$49/59
Windows NT V3.1 (Req. 12MB RAM & 75MB HD)	$355
IBM OS/2 V2.1	$170
Standard Mini Tower with 200W PS	$55
Premium w/PS Mini/Desktop/Med/Full Tower	$70/75/95/115
Printer Cable 6"/10"/12"	$5/7/9
486 CPU Cooling Fan	$15
Chassis Second Cooling Fan 3" or 3.5"	$20

MultiMedia

CD-ROM Drive:

Toshiba XM-3401B SCSI 256K Cache 200ms, 330KB/Sec, Multi-Spin/Spd Internal	$430
NEC CDR-84JD-1 Int. SCSI 280ms 300KB/S	$455
Texel DM-3024N Int. SCSI 265ms Multi-Spin/Spd	$355
DTC CD-ROM Kit w/ 3150 SCSI Adaptor & Sftwre	$75
CD-ROM Caddy	$6

MultiMedia Package:

Creative Labs Multimedia Starter Kit includes: CD ROM, Snd Blaster Pro, MS BokShlf, etc	$425
Creative Labs Discovery CD 8 Upgrade Kit	$399
Creative Labs Discovery CD 16 Upgrade Kit	$475
Creative Labs Edutainment CD 16 Upgrade Kit	$545
MediaVision Fusion CD 16 Internal Kit	$475
MediaVision Pro 16 Multimedia System	$810
MediaVision SubSystem CDPC XL	$1060

Sound Card:

ProAudio Spectrum 16 w/ SCSI Interface	$149
ProAudio Studio 16 w/ SCSI Interface	$189
Pro Movie Spectrum	$279
Creative Labs Sound Blaster Pro	$89
Creative Labs Sound Blaster Pro Deluxe	$129
Creative Labs Sound Blaster 16 ASP	$209
Creative Labs Video Blaster	$309

HardDisk

Western Digital

213MB IDE WDAC2200	$200
250MB IDE WDAC2250	$230
340MB IDE WDAC2340	$300
420MB IDE WDAC2420	$420

Maxtor

213MB IDE 7213AT 64K 15MS	$210
245MB IDE 7245AT 64K 15MS	$240
345MB IDE 7345AT 64K 14MS	$305
540MB IDE MXT540A 256K 8MS	$830
345MB SCSI 7345S 64K 14MS	$439
540MB SCSI MXT540S 256K 8MS	$849
1.2GB SCSI MXT1240S 512K 8MS	$1239
1.7GB SCSI P1-17S 256K 13MS FH	$1239

Quantum

240MB IDE LPS240A 256K	$255
525MB IDE LPS525AT 256K	$585
240MB SCSI LPS240S 256K	$269
525MB SCSI LPS525S 256K	$659
700MB SCSI PD700 256K 10MS	$789
1.0GB SCSI P1050 512K 10MS	$979
1.2GB SCSI P1225 512K 10MS	$1089

Toshiba

877MB MK438FB SCSI-2 12MS	$870
1GB MK537FB SCSI-2 12MS	$930
1.2GB MK538FB SCSI-2 12MS	$990

Micropolis

1.2GB SCSI-2 MC2112 10MS 3.5"	$1069
1.7GB SCSI-2 MC2217 10MS 3.5"	$1999

Fujitsu

520MB IDE M2624T 64K 12MS 3.5"	$675
425MB SCSI M2623SA 240K 11MS 3.5"	$545
520MB SCSI M2624FA 240K 11MS 3.5"	$665
1.2MB SCSI M2694SA 256K 10MS 3.5"	$1075

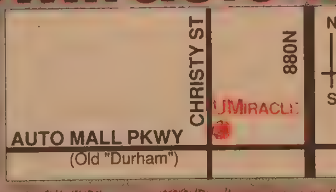
Prices, Specifications and Availability Subject to Change without Notice
Prices reflect Cash Prices, Credit Card Purchases Subject to Surcharge
Non-Local-Area Sales are Subject to Shipping and Handling Charges
All Returns, except compatiblity problem, are Subject to a 15% Re-stocking Charge
All Mail-in Returns Require a RMA Number & Must be in Original Condition Prepaid
Optional 2nd Year Extended Parts Warranty for 5% of system price, call for detail!

We have demo machines running NT, OS2 V2.1 in our showroom, come and try anytime!

International Order Welcome!

We ship to you daily!

UMiracle Microsystems, Inc.



Off 880 Auto Mall Pkwy, or 880 Durham, go west and pass the 880 over-pass, right on second light, we are inside Lincoln Executive Centre, the first business park on your right.

"The PC Enthusiastic Group"
43038 Christy Street
Fremont CA 94538
Tel:(510)226-6746 Fax:226-6758

Playing in the MUD

Virtual Universes Available Online

BY KEVIN M. SAVETZ

Didn't your mother tell you not to play in the mud? Well, never mind her for now, because MUDs—multi-user dungeons—are among the most popular online diversions today. So grab your shovel and bit bucket, and come play in the MUD.

WHAT IS MUD?

MUDs are programs that allow you to interact in real time with other people in a virtual environment. Your surroundings might include any combination of characters, creatures, rooms and objects. Users in the world of a MUD can converse, move around, affect the environment, play games, program, hunt for treasure, and fight vile beasties.

> **MUDs are quite like Zork and other text adventure games: the graphics are unnecessary when there are detailed and imaginative descriptions of players and objects.**

MUDs are generally accessed by using the Internet's "telnet" program to connect to a remote MUD "server"—the program that is the heart of the simulated environment.

MUDs usually have various "locations" that players can move through by typing the compass directions. Objects can be manipulated with commands like GET, LOOK, EAT and THROW. Conversation with others users (and sometimes intelligent programs) is done using the SAY command, for speaking "aloud," and EMOTE, to show actions. (For instance, "waffle looks at you cross-eyed.") MUDs incorporate ideas from "real life," affectionately known as "RL" to mudders. On some MUDs, elements pilfered from RL include economic systems, household appliances, magic, and weddings. I'd tell you that MUDs can have "everything but the kitchen sink," but I know of one that has one of those, too.

Most MUDs are text-only. Although graphics-oriented MUDs exist, they have drawbacks. They are usually slower than text-only MUDs. Also, using a graphical MUD requires special "client" software that interprets the graphics data and displays it on your screen. Because there are so many computer systems—from Atari ST to Macintosh, from Sun to Z80s—it's not always possible to get the right client software for your machine. So, for now, text-based MUDs are the norm. Most mudders don't consider this a drawback, however. MUDs are quite like Zork and other text adventure games: the graphics are unnecessary when there are detailed and imaginative descriptions of players and objects.

IS MUD A GAME?

That depends on who you ask. One "wizard" (a person who runs or helps keep control of a MUD) I know vehemently proclaims that his MUD is a "Social experiment in a text-based virtual reality." Maybe, but to most of his users, it's a game.

Each MUD has a theme. Connect to any given MUD, and you might find yourself on a drifting space station, in Medieval England, in a sprawling Northern California mansion, or in any other of a million scenarios. Because many MUDs differ in theme, scope and goals, each one attracts different sorts of users. Some MUDs allow users to cast spells, chase dragons, and frolic in a virtual wilderness with electronic gnomes. I think it would be safe to call this type of MUD a game. Then again, some MUDs are used mainly for programming, conversation and information exchange between professionals. Obviously, these aren't being used for gaming.

Many MUDs let users do what they will—if you're in the mood to be dragon bait, fine; if you would rather converse with users on the other side of the globe, that's fine too.

According to the *New Hacker's Dictionary* (a wholly nifty book, edited by Eric Raymond), MUD derives from an artificial intelligence experiment at the University of Essex in the early 1980s. Students on the European academic networks liberated the idea, creating a slew of derivatives with names like AberMUD, VaxMUD and LPMUD. MUDs crossed the Atlantic around 1988 and gained popularity in the United States. According to the book, a "second wave of MUDs emphasized social interaction, puzzles and cooperative world-building as opposed to combat and competition." Last year, over 50% of MUD sites were of a third major variety, LPMUD, which combines the combat and puzzle aspects of AberMUD with extendibility. The trend toward greater programmability and flexibility has continued.

As programmers create new types of MUDs, new names appear for the environments. These include TinyMud, DUM, MOO, MUCK, MUG, and a plethora of others. Although some types of systems are generally used for a certain type of game, the best way to find out what a certain MUD is like is to just connect to it. TinyMUDs are usually more socially oriented—players gather, chat, meet friends, and discuss things. The LP-family of MUDs are based on role playing games, so characters spend more time killing monsters, gathering treasure, or otherwise

Copyright © 1993 by Kevin M. Savetz. All rights reserved.

Kevin is a free-lance writer and recovering MUD addict living in Arcata, California. His e-mail address is "savetz@rahul.net".

WORLD OF COMMODORE AMIGA

PASADENA, CALIFORNIA

September 10, 11 & 12, 1993

AMERICA'S GREATEST EXHIBITION & SALE

of Amiga hardware, software and accessories!

See it! Try it! Buy it!

INTRODUCING

THE AMIGA CD^{32}

World's first 32-bit CD game console!

NORTH AMERICAN PREMIER AT THIS SHOW!

SEMINARS

FREE WITH SHOW ADMISSION!

Animation • Videographics
Multimedia • Toaster 4000™
Full-Motion Video
Morphing • Much more

™Toaster 4000 is a registered trade mark of NewTek, Inc.

WORLD OF COMMODORE AMIGA

THE PASADENA CENTER, 300 EAST GREEN ST.
PASADENA CALIFORNIA
September 10, 11 & 12, 1993
Fri. & Sat. 10am–5 pm   Sun. Noon–5pm

ADMISSION: $15.00 per day, $30.00 for three-day pass.
Admission price includes seminars.

For more show information, phone (416) 285-5950.

$5 OFF ADMISSION WITH THIS COUPON

WORLD OF COMMODORE AMIGA

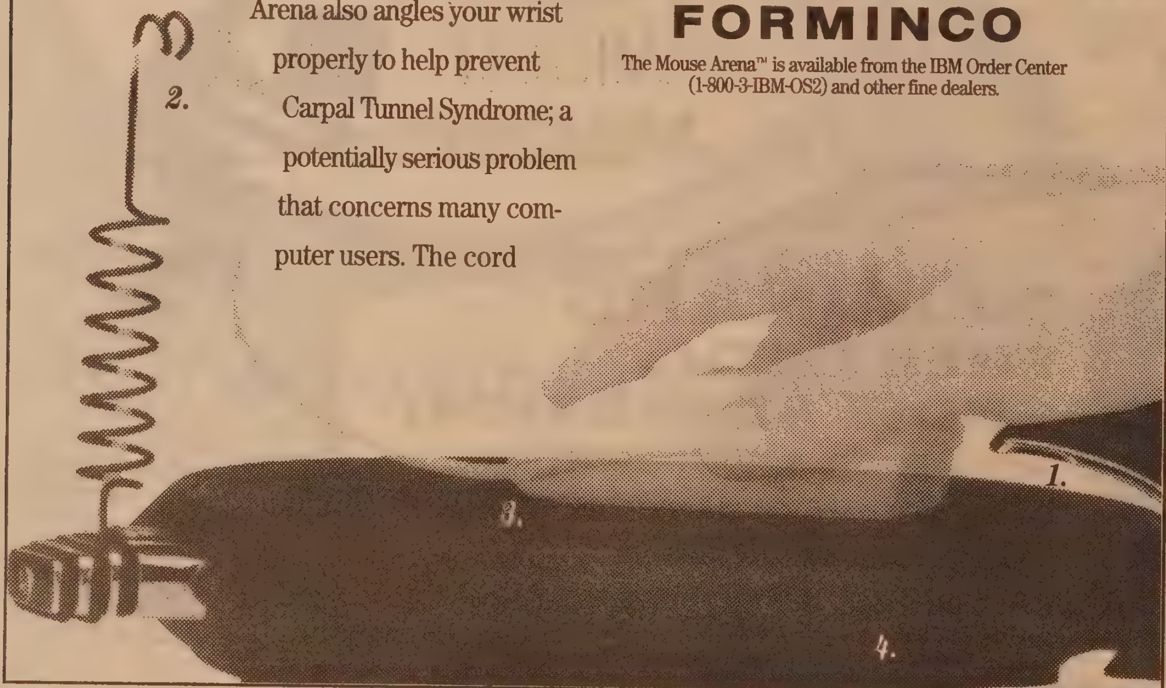
THE PASADENA CENTER, 300 EAST GREEN ST.
PASADENA CALIFORNIA
September 10, 11 & 12, 1993
Fri. & Sat. 10am–5 pm   Sun. Noon–5pm
Not valid with any other offer

Turn your mouse into a lion.

This is no mere mouse pad you're looking at. It's the new Forminco Mouse Arena,™ and it makes you a better mouser in several ways. The fully adjustable glove leather palm rest *(1)* carries the weight of your forearm, taking musculoskeletal stress off the elbow, shoulder and neck so you can work longer hours more comfortably. The Mouse Arena also angles your wrist properly to help prevent Carpal Tunnel Syndrome; a potentially serious problem that concerns many computer users. The cord control system *(2)* lets you forget cord tangles. The Tyron™ tracking system *(3)* keeps your mouse accurate and clean. And *seven* separate feet *(4)* keep your Mouse Arena in place on any surface. Pick up your own Mouse Arena today… and get roaring.

FORMINCO

The Mouse Arena™ is available from the IBM Order Center (1-800-3-IBM-OS2) and other fine dealers.



One "wizard" I know vehemently proclaims that his MUD is a "Social experiment in a text-based virtual reality." Maybe, but to most of his users, it's a game.

trying to reach some goal. Some MUDs are based on score or level systems—the highest level is usually "wizard." Others—the ones that are more socially oriented — have no levels or scoring system. (Whoever is in charge, even on social MUDs, gets an ego-boosting title like "god" or "wizard.")

Most MUDs are open to the public: the first time you enter, you are asked for a name and a password. Then you're dropped into the virtual reality to fend for yourself. What you do then is up to you.

FOR MORE INFORMATION

There are several very good frequently asked questions and answer (FAQ) files available online that detail MUDs, MUD clients and servers, and a complete, current MUD-list.

The most recent versions of the MUD FAQs are available by anonymous FTP from ftp.math.okstate.edu (139.78.10.6) in "pub/muds/misc/mud-faq", plus on rtfm.mit.edu in "pub/usenet/alt.mud" as:

[rec.games.mud]:_FAQ_#1_3:_MUDs_and_MUDding
[rec.games.mud]:_FAQ_#2_3:_MUD_Clients_and_Servers
[rec.games.mud]:_FAQ_#3_3:_RWHO_and__mudwho_

In addition, there are a variety of Usenet newsgroups related to MUDs:

rec.games.mud.announce Informational articles about MUDs. (Moderated)

rec.games.mud.diku All about DikuMuds.

rec.games.mud.lp Discussions of LPMUD

rec.games.mud.moo Discussion about MOO (Object Oriented MUD)

rec.games.mud.misc Various aspects of multi-user computer games.

rec.games.mud.tiny Discussion of Tiny MUDs, IE MUSH, MUSE and MOO

rec.games.mud.admin Administrative issues of multiuser dungeons.

alt.mud.german For German-speaking mudders. ■

We Beat Hi-Tech Prices!!

Upgrade your 386DX to 486 Performance without buying a new motherboard!
Get a TI/Cyrix 486-33/40 CPU Now!!

TI/Cyrix 486DLC-33/40 CPU (Supports 386DX CPU Socket)	$69/99
386/486 VL-BUS w/256K Motherboard	$108
14400/14400 Digicom Scout Plus (Made in USA, 5 yr. Warr.)	$149
486SLC Motherboard with CPU	$139
IBM SLC 2/50-66 VL-BUS Motherboard w/CPU & Math Chip	$318/358
Cyrix 387-40 Fast Math Chip/Intel 387SX	$58/38
NEW ESDI 1:1 Cache Controller (Cirrus Logic Chipset)	$109
NEW RLL 1:1 Controller (DTC 7287)	$35
Orchid Fahrenheit 1280 Plus VLB	$140
Actix Graphic Engine 32VL Plus w/2MB	$225

130MB (Maxtor)	$139	Baby Tower/AT Case	$48
212MB/250MB	$197/219	Full Tower Case w/250W	$68
340MB	$289	VL-BUS IDE/IO Card	$42
SVGA Monitor (0.39)	$195	VL-BUS VGA	$90
SVGA Monitor (0.28) NI	$237/257	250MB Tape Back Dr	$159
SVGA Card 1MB	$46	24/96 Fax/Modem	$30
SVGA Card (512K)	$35	SIMM 60/70/80ns.	From $33
Mitsumi CD ROM w/Card	$175	Mouse w/software	$8.50
101 Keyboard	$17.50	Modem w/software	$9.00

WE CARRY ANY PC RELATED HARDWARE & SOFTWARE—CALL!

Overstock Clearance Sale! Hurry Up!

XT/286/386 Motherboard	From $15	Memory Card, Controller	From $5
Hard Drives	From $20	XT/286/386 Complete Sys.	From $99
Monitors (Mono, VGA)	From $15	Printers	From $35

NEW!!! WYSE 386SX-20, 1MB, 1.2MB Floppy, IDE Card, WYSE Keyboard, Deluxe Desktop Case, Nice Looking $209

	MB+CPU	Test & Assemb. MB/CPU/Chassis	Complete System
386SX-33	$77	$237	$812
386DX-40/64K	$109	$269	$844
386DX-VLB	$145	$305	$880
*486DLC-33/64K	$199	$359	$934
486DLC-VLB	$235	$395	$970
486SX-25/64K VLB	$198	$358	$933
486DX-33/64K VLB	$385	$545	$1120
486DX2-66/64K VLB	$585	$745	$1320

*486DLC System w/math chip installed
*486DLC-40 available Add$55
Complete System Includes: Motherboard, CPU, 4MB RAM, 1.2MB & 1.44MB FDD Controller, 130MB Hard Disk, 101 Keyboard, SVGA Monitor w/SVGA Card, Power Supply.

Palo Alto Micro Corp.
3483 El Camino Real, Palo Alto, CA 94306
415/493-8209
Fax 415/493-4572
M-F 9am-6pm & 8pm-10pm

7 Years in Business with Quality Parts & Service

Prices and Availability Subject to Change w/o Notice

CD ROM
+
Sound Card
+
2 Stereo Speakers
+
9 CD titles
$ 309

Legend

486DX40/64K
Local Bus system
w/Bus Master
with
Super High Speed Junper
$ 498

486DX2-66	64K cache Local bus system	**$ 682**
486DX-50	64K cache Local bus system	**$ 620**
486DX2-50	64 cache Local bus system	**$ 553**
486DX-40	64K cache Local bus system	**$ 498**
486-33	64K cache Local bus system	**$ 298**
486SX-33	64K cache Local bus system	**$ 356**
486SX-25	64K cache Local bus system	**$ 294**
386-40	64K cache	**$ 228**
386SX-33	SYSTEM	**$ 202**
386SX-25	SYSTEM	**$198**

BASIC SYSTEM CONFIGURATION:
Motherboard & CPU, Super High Speed Jumper
1:1 2HD/2FD Controller
1.44MB Floppy Drive. Internal Clock/Calendar
Clock/Calendar. Enhanced Case with Power
Power Supply & 101 Key enhanced Key Board

EXPANSION SUPER SALE !!!

486DX2-66/486DX-50 Local Bus System

- Upgradable to DX2-66
- High Quality Legend Motherboard w Super High Speed Jumper
- 486CPU/64K Cache
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 130MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower w Case With 230W Power Supply
- 101 Enhanced Keyboard

$1115/1052

486-33/64K w/Bus Master Local Bus System

- Upgradable to DX2-66
- High Quality Legend Motherboard w Super High Speed Jumper
- 486CPU/64K Cache
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 130MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower w Case With 230W Power Supply
- 101 Enhanced Keyboard

$ 731

386-40/64K

- 386DX-40 CPU/64K cache & Legend Motherboard
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.2MB Floppy Drive
- 1.44MB FloppyDrive
- 80MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower Case
- 230W Power Supply
- 101 Enhanced Keyboard
- Math. Co-processor Socket

$ 631

386SX-33

- 386SX-33 CPU & Legend Motherboard
- 0 MB RAM
- IDE I/O (2HD/2FD 2S/P/G)
- 1.44MB FloppyDrive
- 80MB Hard Drive
- SVGA Video Card
- 14" SVGA Monitor 1024x768
- Mini Tower Case
- 230W Power Supply
- 101 Enhanced Keyboard

$ 572

MOTHERBOARDS W CPU

486DX2-66/64K VLB	W/BUS MASTER	$ 605
486DX50/64K VLB	W/BUS MASTER	$ 525
486/33 W/64K VLB	W/BUS MASTER	$ 195
386/40 W/64K		$ 125

MEMORY & MATH-COPROCESSOR

1MBX9 SIMM 60NS	$ CALL
1MBX9 SIMM 70NS	$ CALL
4MBX9 SIMM 60NS	$ CALL
4MBX9 SIMM 70NS	$ CALL
387DX 40/33	$ CALL
387SX 33/25/20	$ CALL

VIDEO CARDS & MONITORS

TRIDEN 1MB SVGA	$ 54
ATI GRAPHIC ULTRA PRO W.2MB	$ 330
Orchid Fahrenheit VLB	$ 135
14' SVGA 0.28 MONITOR(1024X768)	$ 235
14' SVGA 0.28 NON-INTERLACE MONITOR (1024X768)	$ 255
Mono. 14" Monitor	$ 89

HARD DRIVES

170MB (IDE) HARD DRIVE	$ 185
210MB (IDE) HARD DRIVE	$ 205
250MB (IDE) HARD DRIVE	$ 225
340MB (IDE) HARD DRIVE	$ 295

CASE & POWER SUPPLY

MINI TOWER W/230W P.S.	$ 49
MEDIUM TOWER W/230W P.S.	$ 79
FULL TOWER W/250W POWER SUPPLY	$ 102
DESKTOP CASE W/230 W P.S.	$ 51

MISCELLANEOUS

2400 INTERNAL MODEM	$ 26
96/24 FAX/MODEM(WINDOW)	$ 47
14400/14400 FAX/MODEM internal	$ 143
DC 2120 TAPE	$ 18
COLORADO DJ-10	$ 138
COLORADO DJ-20	$ 181
3 BUTTON MS COMPATIBLE MOUSE	$ 9
MS MOUSE	$ 42
MS DOS 6.0(W/SYS)	$ 43

CD ROM & SOUND CARDS

CD ROM + Sound Card + 2 Stereo Speakers + 9 CD Titles ONLY $ 309

MITSUMI CD-ROM (350MS)	$ 180
TOSHIBA CD-ROM (200MS)	$ 420
GALAXY PRO W/SPEAKER	$ 114

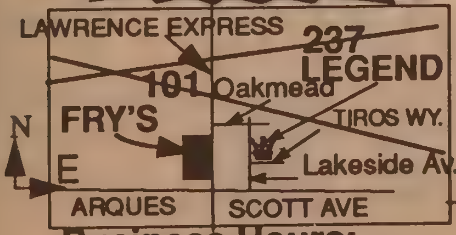
CD-ROM SOFTWARES

MS BOOKSHELF	CALL
CHEST MASTER 3000	CALL
SHERLOCK HOLMES	CALL
US ATLAS	CALL
BEAUTY & BEAST	CALL

MORE AND MORE ARE AVAILABLE!

Legend
Computer

SUNNYVALE STORE

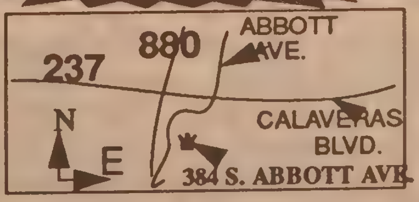


Legend Computer Inc.
470A LAKESIDE DRIVE
SUNNYVALE, CA. 94086
TEL: (408)720-0818
FAX: (408)720-0819

Business Hours:
Mon-Fri. 9AM-7PM Sat. 10AM-6PM

MILPITAS STORE

Legend Computer Inc.
384 South Abbott AVE.
MILPITAS, CA. 95035
TEL: (408)262-6861
FAX: (408)262-6315



Business Hours:
Mon-Fri. 9AM-6PM Sat. 10AM-4PM

*** Prices, availability and terms are subject to change without notice**

*** Not responsible for typos**

VIRTUAL REALITY FOR ASTRONOMERS

AstroVR is a virtual reality for astronomers. Its purpose is to facilitate collaboration by giving shared access to data, images, and tools for online research and conferencing. AstroVR is based on MOO, a multi-user object-oriented environment. Unlike most MUDs, AstroVR users can work with both text and graphics.

Typically, MUDs are used exclusively for gaming, but Dave Van Buren, at the Caltech/Jet Propulsion Laboratory, feels their potential for applications outside recreation is very real, as they can provide an intuitive interface in a closed "cyberspace."

The idea is to facilitate communications between scientists who are geographically isolated. "Some of the scenarios we wish to support are shared visualization of data with conversation via an audio channel, small group meetings with multimedia display of data and text, and shared use of 'whiteboards' for calculations and sketching ideas," Van Buren said. Also in the works are literature searches and automatic notification when new scientific papers are released.

Scientists in North America and Europe are using AstroVR to share data and notes during observation of a quasar. "Once we have used their project to build a suitable infrastructure, we will open AstroVR to general use by all astronomers, probably within six months," Van Buren says. The system is still experimental. "We think that once a critical mass of functions and users are present, we will see new uses evolve." AstroVR supports Sun workstations running X and requires special software.

THE MUD LINGO

In a place where words create the universe, people start to develop a new language. Words and acronyms creep in from "real life," the Usenet, BBSes and elsewhere.

BONK: To virtually hit someone on the head. Probably playfully, and probably in response to a stupid question or dumb mistake. The correct response by the bonkee is "Oif!"

CLUELESS NEWBIE: A "newbie" is someone who has recently begun participating in some activity. A new user wandering the plains of MUD in hopeless confusion is a clueless newbie.

LOL: Shorthand for "laughs out loud." Extremely funny comments might provoke ROTFLs (rolling on the floor laughing.)

NETLAG: When one of the links between a user and a server goes down or becomes overloaded, things can slow down: you might type a line and not immediately see a response. This fate is known as netlag.

REAL LIFE (or RL): The opposite of Virtual Reality: the world you go back to after you sign off the MUD.

SPAM: When a MUD slows down because some user is hogging system resources (say to do "real" work) you are a victim of "spam."

TINYSEX: The word is a play on a type of MUD, TinyMUD. We leave the definition as an exercise to the reader.

WIZARD: A user with high power on a MUD.

SPARC WORKSTATIONS

SunSelect
Registered Reseller

(Full Configuration)

100 % SPARC 10 Clone	$9,100
100 % Sparc Classic+ Clone	$3,500

SPARC 10 Clone M41, M51 (Shipping Now)

Buy Any Sparc 10 Model Before 9/30/93, Get One Free PC Notebook* !!

Call Today: 1-800-468-8908

We also carry LAN related products: ethernet cards, HUB, and PC-NFS and provide services to help you setup smooth intergration between PC and SUN workstations. Call Accord Systems Today.

Accord Systems, Inc.
548 Valley Way, Milpitas, CA 95035
Tel: (408) 945-9787
Fax: (408) 945-9849

* While the supplies last.

Dealer Inquiries Welcome. Gov't & Education Discounts

DISCOVER THE INTERNET
FOR ONLY
$17.50
A MONTH

Unlimited access with no hourly connect fees!
Why pay long distance phone charges?

CRL brings the Internet to you with a local call from any of the following areas:

- Alameda
- Atlanta, GA
- Belmont
- Berkeley
- Concord
- Corte Madera
- Crockett
- Emeryville
- Fairfax
- Half Moon Bay
- Hercules
- Ignacio
- Kentfield
- Los Altos
- Millbrae
- Mill Valley
- Mountain View
- Novato
- Oakland
- Orinda
- Pacifica
- Palo Alto
- Petaluma
- Phoenix, AZ
- Pinole
- Pittsburg
- Redwood City
- Rohnert Park
- Richmond
- San Carlos
- San Francisco
- San Geronimo
- San Leandro
- San Mateo
- San Rafael
- Santa Rosa
- Sausalito
- Scottsdale, AZ
- Sebastopol
- Sonoma
- So. San Francisco
- Tempe, AZ
- Tiburon
- Walnut Creek
- Woodside

A CRL dialup shell account gives you unlimited access to E-mail, Usenet News, FTP, Telnet, IRC, Wais, Archie, Gopher, CRL's dedicated MUD server, a vast local archive of PC, MAC, and UNIX software, and 24 hour customer support for only $17.50 a month.

All dialups support SLIP/PPP, UUCP, and Shell services at speeds up to 14400 baud. Contact CRL for your dialup, dedicated line, or custom IP service needs.

CRL
VOICE: 415-381-2800
FAX: 415-381-9578
E-MAIL: support@crl.com

FREE DELIVERY & INSTALLATION

On-Site Service Available • Satisfaction Guaranteed

COMPLETE SYSTEMS With Lifetime Labor

486DX-66 256K VESA LOCAL BUS 4MB RAM/200MB HD SVGA SYSTEM

- 4MB RAM/200MB Hard Drive
- Impression SVGA Monitor 1024 x 768 .28
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1499

486DX-50 256K VESA LOCAL BUS 4MB RAM/200MB HD SVGA SYSTEM

- 4MB RAM/200MB Hard Drive
- Impression SVGA Monitor 1024 x 768 .28
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1449

486DX-33 256K VESA LOCAL BUS 4MB RAM/200MB HD SVGA SYSTEM

- 4MB RAM/200MB Hard Drive
- Impression SVGA Monitor 1024 x 768 .28
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$1269

MITSUBISHI 20" *SVGA MONITOR*

1280 x 1024 .31dp

$899

HARD DRIVES

80MB IDE	$160
120MB IDE	179
175MB IDE	199
200MB IDE	215
250MB IDE	235
340MB IDE	320
1.2GB SCSI	1245

VGA CARDS

Oak 1MB SVGA Card	$49
Trident SVGA 1MB	54
Prodesigner IIs 1MB	130
ATI Wonder VGA VL24 1MB	129
ATI Ultra Plus 2MB	299
Orchid Fahrenheit 1MB	147
Orchid Fahrenheit VLB	180
Paradise Windows Acc. 1MB	150

386DX-40 128K 4MB RAM/120MB HD SVGA SYSTEM

- 4MB RAM/200MB Hard Drive
- Impression SVGA Monitor 1024 x 768 .28
- Trident SVGA Card w/1MB
- 1.2 & 1.44 Floppy Drives
- 101 Keyboard
- Serial Mouse

$999

MOTHERBOARDS

MICRONICS

486DX-33 256K VLB	$685
486DX2-50 256K VLB	829
486DX2-66 256K VLB	CALL

MYLEX

486DX-33 128K VLB	$675
486DX-50 256K VLB	CALL
486DX-66 256K VLB	CALL

AMI

All AMI motherboards include built in IDE & floppy controller

486DX-33 256K VLB	$799
486DX-50 256K VLB	899
486DX-66 256K VLB	1099

MONITORS

Impression SVGA .39	$199
Impression SVGA .28	245
Touch SVGA .28 NI	275
Viewsonic 1 .39	239
Viewsonic 4E .28	295
Viewsonic 6FS 15"	525
Viewsonic 7 17"	985
NEC 3FGe	615
NEC 4FGe	735
NEC 5FGe	1125
NEC 6FG	2325
Goldstar 15" .29	469
Goldstar 17" .31	725
Magnavox 20"	1299

BRAND NAMES

TOSHIBA

T1900 4/80	$1659	T4500 4/120	2089
T1900 4/120	1789	T4500C 4/120	2959
T1900C 4/120	2399	T4600 4/120	2839
T1900C 4/200	2679	T4600C 4/120	4039
T4400C 4/120	3399	T4600C 4/200	4299

COMPAQ

Prolinea bundled with DOS, Windows, & Mouse!		Contura bundled with DOS, Windows, & Trackball!	
Prolinea 3/25 M84, Bundle	$919	Contura 3/25 M84	1449
Prolinea 3/25 M120, Bundle	975	Contura 3/25C M84	1979
Prolinea 4/33 M120, Bundle	1570	Contura 4/25, M120	1899
Prolinea 4/33 M240, Bundle	1769	Contura 4/25, M209	2199
Prolinea 4/50 M120, Bundle	1895	Contura 4/25C, M120	2554

IBM®

ThinkPad 300 4/80	$1769
ThinkPad 300 4/120	2049
ThinkPad 350 4/125	1999
ThinkPad 350C 4/125	2799
ThinkPad 500 4/85	2199
ThinkPad 500 4/170	2669
ThinkPad 720 4/120	3099
ThinkPad 720 4/160	3199
ThinkPad 7200 4/160	4699

Value Point bundled with DOS, Windows, & Mouse!

Value Point 486DX-33 4/120	1660
Value Point 486DX-33 4/245	1850
Value Point 486DX2-66 4/245	2350
Value Point 486DX2-66 4/340	2550

TEXAS INSTRUMENTS

TM4000 WinSLC-25 4/120	$1899	TM4000 WinDX2-50 8/200	2999
TM4000 WinDX-25 4/120	2359	TM4000 WinSX-25 Color 4/120	2599
TM4000 WinDX-25 4/200	2559	TM4000 WinDX2-40 8/200	3599

Avanti

386-25SLC 4/80 with 24/96 Modem & DOS	$1265
486-25SLC 4/120 with 24/96 Modem & DOS	1665
486-25SLC Color 4/120 with 24/96 Modem & DOS	2299

NEC

UltraLite VERSA Notebooks

486SL-20 4/120	$2659
486SL-20C 4/80	3449
486SL-20C 4/120	3639
486SLC-25 4/120	3739
486SLC-25C 4/120	3759
486SLC-25C 4/180	3999

HEWLETT PACKARD

DeskJet 500	$355
DeskJet 500C	489
DeskJet 550C	685
LaserJet 4L	680
LaserJet IIIP	855
LaserJet 4	1365

PRINTERS

OKILASER 400	$565	EPSON ML 320	295
OKIDATA 810	899	PANASONIC KXP 1124i	299
NEC Laser 95	1299	PANASONIC KXP 2123	249
EPSON ActionLaser II	685	PANASONIC KXP 2180	169

CALIFORNIA COMPUTER CO.

3401 Investment Blvd. #3
Hayward, CA 94545

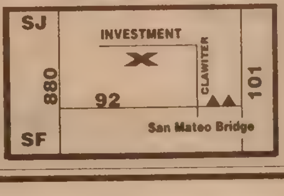
MasterCard VISA

Hours: M-F 9:30-5:30

(510) 785-3850

Fax (510) 783-5128

Government & Corporate P.O.s Accepted
PRICES REFLECT CASH PRICES
Prices Subject to Change Without Notice. Not Responsible for Typographical Errors. Logos are Property of Their Respective Companies



LIST OF MUDS

MUDs come and go daily, so some of the following MUDs may no longer be active after press time. For a possibly complete and potentially up-to-date listing, read "The Totally Unofficial List of Internet Muds" on the Usenet group rec.games.mud.announce, where it is posted frequently. You may also get it via FTP from "rtfm.mit.edu" in directory "pub/usenet/rec.games.mud.announce".

To access a MUD, you need an Internet account and access to the "telnet" program which connects your computer to a remote "host" running the MUD server. Most MUDs require you to request a specific port number, a numeric extension following the host address, for example: "telnet lambda.parc.xerox.com 8888".

ABERMUDS

Askerbulkum	minsk.docs.uu.se	130.238.9.30	6715
DragonMud	fermina.informatik.rwth-aachen.de	137.226.224.20	6715
Kender's Kove	marx.esu.edu	192.147.113.10	6715
Longhorn	lisboa.cs.utexas.edu	128.83.139.10	6715
Mustang MUD	mustang.dell.com	143.166.224.42	6715
Northern Lights	aber.ludd.luth.se	130.240.16.18	6715
Tyrann II	muselab.ac.runet.edu	137.45.33.100	6715
	muselab-gw.runet.edu	137.45.128.10	

DIKUMUDS

AlexMUD	mud.stacken.kth.se	130.237.234.17	4000
Apocalypse III	peabrain.humgen.upenn.edu	128.91.3.204	4000
BobMUD	newt.cc.geneseo.edu	137.238.1.11	9000
		137.38.1.11	
Chomestoru	mccool.cbi.msstate.edu	130.18.104.2	4000
Dark Knight's Realm	sun1.cstore.ucf.edu	132.170.223.1	4000
FredMUD	fred.indstate.edu	139.102.12.14	2150
Generic MUD	susan.mit.edu	18.80.1.222	4000
Gods of War	shadow.acc.iit.edu	192.41.245.143	4000
GrimneMUD	gytje.pvv.unit.no	129.241.36.229	4000
KIT-MUD	jinsil.kaist.ac.kr	137.68.17.5	4000
Last Outpost	sprinkle.cray.com	128.162.84.19	4000
MUME	lbdsun4.epfl.ch	128.178.77.5	4000
	disun8.epfl.ch	128.178.79.56	
Medievia	bigboy.cis.temple.edu	129.32.32.98	4000
Mozart	csci1.uark.edu	130.184.71.148	4000
Mudde Pathetique	flysex.berkeley.edu	128.32.128.36	2999
QUEST!	steinmetz.ee.utulsa.edu	129.244.59.34	1701
Renegade Outpost	louie.cc.utexas.edu	128.83.135.4	9999
			9998
Rivers of Mud	cie-2.uoregon.edu	128.223.36.161	9000
Rocky Mud	spot.colorado.edu	128.138.129.2	4000
SillyMud	doldrums.cis.ufl.edu	128.227.224.35	4001
			4000
Snebo-land	thrash.isca.uiowa.edu	128.255.19.235	4000
The Crystal Shard	mib16.eng.ua.edu	130.160.80.16	9000
The Perilous Realms	odin.wosc.osshe.edu	140.211.111.20	2150

LPMUDS

AbacusMUD	abacusmud.hgs.se	130.238.204.21	4080
Ancient Anguish	dancer.ethz.ch	129.132.57.66	2222
Beyond Belief	cook.brunel.ac.uk	134.83.128.246	4444
Darker Realms	worf.tamu.edu	128.194.51.189	2000
Deeper Trouble	alk.iesd.auc.dk	130.225.48.46	4242
DragonFire	bigben.umsl.edu	134.124.42.246	3000
GateWay	actlab.rtf.utexas.edu	128.83.194.11	6969
Genesis	milou.cd.chalmers.se	129.16.79.12	2000
	ibtest1.cs.chalmers.se	129.16.225.125	3011
Highlands	pip.shsu.edu	192.92.115.10	2000
Igor	ny.mtek.chalmers.se	129.16.60.9	1701
Ivory Tower	marvin.macc.wisc.edu	144.92.30.207	2000
Kain's Estate	cognac.informatik.uni-kl.de	131.246.8.96	2000
KoBra	duteca4.et.tudelft.nl	130.161.144.22	8888
Loch Ness	lochness.i1mp.ch	157.161.1.12	2222
	indigo.imp.ch		
Lost Souls	ux.tcs.uh.edu	129.7.2.110	3000
LustyMud	lusty.tamu.edu	128.194.9.199	2000
Nameless	complex.is	130.208.165.231	2000
NannyMUD	kajsa.lysator.liu.se	130.236.254.150	2000
Nanvaent	corrour.cc.strath.ac.uk	130.159.220.8	3000
Nightmare	jericho.connected.com	162.148.251.252	6000
Overdrive	eng3.sequent.com	138.95.7.14	5195
PaderMUD	mud.uni-paderborn.de	131.234.2.42	3000
	padermud.uni-paderborn.de		
Phoenix	orlith.bates.edu	134.181.1.12	3500
	elof.iit.edu		
Psycho-thriller	ticarus.montclair.edu	130.68.1.40	3000
QUOVADIS	nemesis.imp.ch	157.161.1.10	2345
STYX	freedom.nmsu.edu	128.123.1.14	3000
Shadow's Edge	was.chem.psu.edu	128.118.30.101	2000
The Round Table	ac.wfunet.wfu.edu	152.17.1.1	2222
Tower of Darkness	alice.ece.scarolina.edu	129.252.22.36	3000
TubMUD	morgen.cs.tu-berlin.de	130.149.19.20	7680
Valhalla	midgard.valhalla.com	192.187.153.1	2444
	valhalla.com		
VikingMUD	bigblue.pvv.unit.no	129.241.36.232	2001
WanderingMUD	ewok.ecn.purdue.edu	128.46.185.89	1234
		128.46.130.89	

MOOS

DragonsFire	netman.widener.edu	147.31.1.51	4444
LambdaMOO	lambda.parc.xerox.com	13.2.116.36	8888
MagicMOO	dougal.aston.ac.uk	134.151.36.1	7777
OpalMOO	cc.brynmawr.edu	130.58.85.1	7777

TINYMUCKS

DruidMuck	freedom.nmsu.edu	128.123.1.14	4201
Halcyon	hobbes.cs.mcgill.ca	132.206.3.32	1256
Incarnations	zippy.sonoma.edu	130.157.2.99	4201
Qwest	betz.biostr.washington.edu	128.95.10.119	9999

TINYMUSES

Rhostshyl	rhostshyl.cit.cornell.edu	128.253.180.15	4201
TOS TrekMuse	siher.stanford.edu	36.109.0.64	1701
	ed-ce-034.stanford.edu		
TimeMuse	murren.ai.mit.edu	18.43.0.179	4201
TrekMUSE	nebula.lib.vt.edu	128.173.7.183	1701
VegaMUSE 2	galileo.sos.clarkson.edu	128.153.16.176	2095
WindsMUSE	swrl36.calstate.edu	130.150.102.36	4208

TINYMUSHES

ApexMUD	apex.ccs.yorku.ca	130.63.237.12	4201
Global MUSH	lancelot.cif.rochester.edu	128.151.220.22	4201
ImagECastle	fogey.stanford.edu	36.22.0.31	4201
PosseMUSH	bohr.sos.clarkson.edu	128.153.16.134	4201
RedStar	kyriath.cygnus.com	140.174.1.69	6666
SillyMush	zaphod.cs.uwindsor.ca	137.207.224.3	1919
TinyCWRU	caisr2.caisr.cwru.edu	129.22.24.22	4201
ToonMUSH	hobbes.catt.ncsu.edu	152.1.43.9	3000
TrippyMush	newton.sos.clarkson.edu	128.153.16.131	7567
UK_MUSH	dawes.brunel.ac.uk	134.83.192.68	4201
		134.83.128.247	
		134.83.240.6	

continued on page 238

BCS*A

BAY COMPUTER SYSTEM OF AMERICA

SERVICE & QUALITY MAKE THE DIFFERENCE!

486DX-33/50/66 Mhz 64Kcache 170 Mb HD

- INTEL 486-33/50/66 DX2 CPU
- 4MB RAM 70 NS (UP TO 32 MB)
- 1.2 & 1.44FD
- 170 MB HARD DRIVE (13MS)
- 2FD/2HD IDE CONTROLLER
- 2S, 1P, 1 GAME PORT
- TRIDENT 8900 (OEM) SVGA CARD W/1M
- 101 ENCHANCED KEYBOARD
- SVGA MONITOR (.28 DP 1024X768)
- MINI TOWER CASE W/230 WPS
- MS COMPATIBLE MOUSE

COMPLETE

$1395/$1529/$1619

VESA LOCAL BUS 486DX-33/50/66 Mhz

- INTEL 486-DX CPU
- 256K CACHE (up to 1MB)
- 4MB RAM (70 NS UP TO 32 MB)
- 1.2FD & 1.44FD
- 170 MB IDE HD (15 MS)
- VL IDE CONTROLLER
- 2S, 1P, 1 GAME PORT
- VL WIN ACCELERATOR CARD W/1M
- SVGA MONITOR (.28 DP 1024X768)
- 101 ENHANCED KEYBOARD
- QUALITY CASE W/230 WPS
- MS COMPATIBLE MOUSE

COMPLETE

$1469/$1619/$1729

AMI Super Voyager 486-33/66 DX VESA LOCAL BUS

- AMI Super Voyager VL w/256K cache
- 4MB RAM
- 1.2FD & 1.44FD
- VESA LB IDE CONTROLLER
- VESA LB WIN ACCELERATOR W/1M
- 2S, 1P, 1 GAME PORT
- 170 MB IDE HD (13 MS)
- 101 ENHANCED KEYBOARD
- QUALITY CASE/230 WPS
- NON-INTERLACED SVGA MONITOR (.28DP 1024X768)
- MS COMPATIBLE MOUSE

COMPLETE

$1795/$2039

5 YEARS LABOR/ 1 YEAR PARTS WARRANTY ON BCSA SYSTEMS

MULTIMEDIA

CREATIVE LAB	
Sound Blaster Pro Deluxe w/titles	$135
Sound Blaster ASP 16	219
Creative Lab Multimedia Kit	499
MEDIA VISION	
Pro Audio Spectrum 16	175
Pro Audio Studio 16	219
Turtle Beach	599
Mitsumi CD ROM DR (350 ms)	189
Texel DM-3024 CD DR (265 ms)	389
Trantor SCSI Controller	85
Labtec Stereo Speakers	from 25

CASES

Mini Tower Case w/230PS	$59
Baby AT Case w/230 PS	59
Mid Tower w/230 PS	89
Big Tower w/250 PS	105

VIDEO OPTIONS

MGP Card	$17
Trident 8900 w/1M	69
Tseng ET 4000 w/1M	85
Paradise w/1M	89
Paradise Win Acc w/1M	109
Diamond Speedstar Pro ISA/VL	149
Diamond Stealth 24 ISA/VL	179
Diamond Viper VL w/2M	409
ATI Ultra Pro w/1M/2M	279/349
VGA Card w/256K Ram	35
Orchid Fahrenheit w/VA w/1M	209

KEYBOARDS

BTC 84	$29
BTC 101	30
Maxi Switch 101	39
Keytronic 101	45
Focus 9000	69
Northgate Omni 101/102	75
Chicony 101 w/Trackball	109

HARD DRIVES

40/80 MB HD	$139/179
120 /170 MB HD	189/219
212/245 MB HD	249/269
340/500 MB HD	349/920

CALL FOR OTHER DRIVES

MONITORS

Samsung Synmaster 15	$469
14" Amber/VGA Mono	109/119
SVGA 1024x768 .28DP	269
SVGA NI 1024x768 .28DP	289
MAG 15F 15"	579
NEC 3FGe 15"	649
NEC 4FGe 15"	789
NEC 5FGe 17"	1359
Nanao F550i 17"	1159
Nanao F680iw 21"	2299

CONTROLLER CARDS

IDE Controller 2FD/2HD	$18
IDE I/O Controller	22
MFM F/D 1:1 Controller	55
VL IDE I/O Controller	45
VL IDE I/O w/1MB WIN Accl	139
SCSI II Adaptec 1542C	249
SCSI II VL Ultrastor	339
SCSI VL Promise cache	185

MOTHERBOARDS

386-33SX	$99
386-40DX W/128K CACHE	159
486-33/50/66 DX	439/589/655
486-33/50/66 VL W/256K	469/619/685
AIR 486-33/66 VL/EISA 512K	442
AMI Super Voyager VL 256	475

WE DO SYSTEM REPAIR & UPGRADE! CALL THE EXPERTS!

THIS MONTH'S SPECIALS!

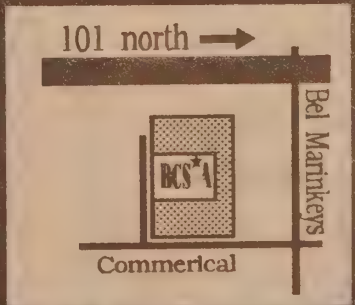
HEAT SINK W/FAN	$15
ZNIX MOUSE W/ WIN 3.1	$59
14" AMBER MONITOR	$105
MITAC 17" SVGA MONITOR .31DP	$499
1.2 & 1.44 FD	$95
14.4 INT FAX/ MODEM	$159
101 KEYBOARD	$20
PRINTER AUTO SWITCH	$19

BCS*A COMPUTERS

Tel: (415) 883-7392

8A Commercial Blvd Novato, CA 94949
Hours: M-F 10:00 am-6:00pm SAT 11:00am-4:00pm

Fax: (415) 883-8104



*Dealer Inquires Welcome • *Volume Discount Available • *Price subject to change w/o notice • *Trademarks are registered by respective companies

ANNIVERSARY CELEBRATION!

Why ACCESS?

-7 Years of Business Experience

-$3 Million in Inventory

-Located in the Heart of Silicon Valley

-Over 2,000 Line Items to Choose From

-Well-Stocked 18,000 sq. ft. Showroom

-Factory Trained Technical Staff

-Authorized Sales & Service for Most National Name Brand Products

-Extended Warranty Available

STORE HOURS
M-F 9-8
SAT-SUN 10-5
(Pacific Time)

The Powerful ACCESS Desktop Systems

ACCESS' high-speed machines provide exceptional performance and flexibility for long-term business needs.
Delivers multitasking capabilities for easy handling of simultaneous applications.
And above all, ACCESS systems feature top quality materials, construction, reliability and support to meet the standards of the most demanding customers.

All High Performance Systems Feature:

- Motherboard w/CPU
- 4MB RAM expandable to 32MB
- AMI Bios
- 2 Serial/parallel/game ports
- 101 enhanced key keyboard
- 72 hour extensive testing
- Cache expandable to 256K
- 5.25"1.2MB & 3.5" 1.44MB FDD
- IDE hard/floppy disk controller
- Real-Time clock/calendar
- MS-DOS 6.0
- 1-year parts & labor warranty

FREE 300W Line-Conditioner w/any ACCESS system Purchased!

Featured in Computer Shoppers "Incredible 486 Deals" January '93!

ACCESS VLB 486DX2-66

- 256K Cache, 4MB RAM
- Maxtor 240MB HDD • Genoa VLB 8500 1MB VGA
- Viewsonic 6e 14" SVGA Monitor
- Deluxe Desktop or Medium Tower
- Dual floppies

$1876

ACCESS VLB 486DX-33

- 256K Cache, 4MB RAM
- Maxtor 240MB HDD • Genoa VLB 8500 1MB VGA
- Viewsonic 6e 14" SVGA Monitor
- Deluxe Desktop or Medium Tower
- Dual floppies

$1629

ACCESS 386DX-33

- 128K Cache, 4MB RAM
- Conner 80MB HDD • Trident SVGA 1MB Card
- Impression 1439 14" SVGA Monitor
- Deluxe Desktop or Mini Tower
- Dual floppies
- Math coprocessor socket

$1029

ACCESS
COMPUTER TECHNOLOGIES

408-247-4444
2225 EL CAMINO REAL SANTA CLARA, CA 95050
Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

VLB-VESA Local Bus

486-33MHz

High Quality GENOA *Motherboard:*

- **CONNER 120MB**, 15ms hard drive
- **256K** Cache memory
- 2 serial, 1 parallel and 1 game port
- **GENOA VLB** IDE Controller
- 3.5" & 5.25" floppy disk drives
- **4MB RAM** exp. to 32MB on-board
- **GENOA VLB** 8500 VGA card
- 101-key enhanced keyboard
- **Viewsonic** 6E NonInterlaced monitor
- Deluxe medium tower, & DOS 6.0

$1849

Genoa
SYSTEMS CORPORATION

486SLC2-66MHz

High Quality ALARIS *Motherboard:*

- **CONNER 120MB**, 19ms hard drive
- **256K** Cache memory
- 2 VESA Local Bus slots
- **VLB** IDE Controller
- 5.25" & 3.5 floppy disk drives
- **4MB RAM** exp. to 16MB on-board
- **Cirrus Logic VLB VGA card**
- 101-key enhanced keyboard
- **Impression** IM3439SV monitor
- Deluxe medium tower & DOS 6.0

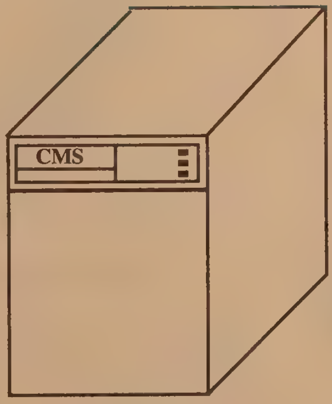
$1444

ALARIS
MANUFACTURED
BY IBM

AC-LINE CONDITIONER
by CMS

Great Investment To Protect Your Expensive Power Sensitive Electronic!

Such As:
TVs, Stereos, Computers
& much more...



Provides a clean steady power level!

Eliminates surges & spikes!

Built-in surge protection!

UC Listed • FCC Approved

300 VA	$49	1000 VA	$99
500 VA	69	3000 VA	149

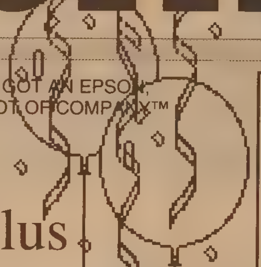
NORTHGATE
COMPUTER
SYSTEMS, INC.

PS/2, AT&T, Tandy Available

OmniKey™ Keyboards

101S / 101NI	$59/79
102	79
UltraT / UltraF	99
Skin Protectors	19.95 each

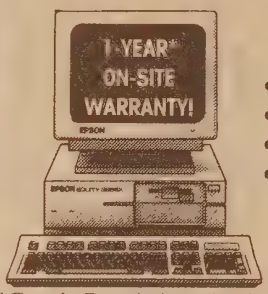
JOIN THE CELEBRATION!



EPSON®

WHEN YOU'VE GOT AN EPSON
YOU'VE GOT A LOT OF COMPANY™

Equity 386SX-20Plus



*Certain Restrictions Apply

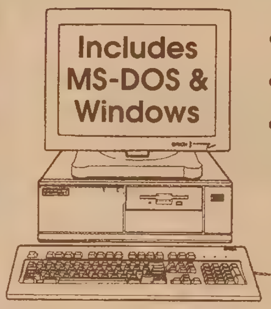
- 20MHz 386SX, **64K Cache**
- **2MB RAM** exp. to 14MB
- **40MB** Hard Drive
- 101 key keyboard
- 12" Mono VGA Monitor
- **3.5"** floppy drive
- Intergrated SVGA card
- One-year onsite warranty*

$549

Equity 4 Systems

NEW!

Affordable High Performance!



- Support for Intel's OverDrive
- **4MB RAM** exp. to 32MB
- **512K** video DRAM exp to 1MB
- Zero Insertion Force sockets
- **3.5"** floppy drive
- 101 key keyboard & mouse

486DX-33 w/o HDD	**$999**
486DX-33 120MB HDD	**1198**
486DX-33 240MB HDD	**1350**

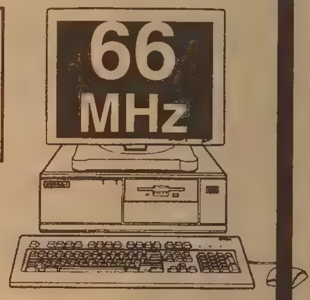
*Monitor not included

PROGRESSION 486DX2/66

Born to Run Windows... The Fastest in its Class!

- **Intel** 486DX2/66 processor
- Built-in math coprocessor
- Epson's VirtualCache™
- 3.5" 1.44MB FDD
- Built-in 8KB cache
- 4MB RAM exp. to 36MB
- 6 16-bit I/O slots
- MS-DOS, Win. included
- Wingine™ graphics acceleration architecture
- Intergrated serial, parallel, mouse & VGA ports

EPSON PROGRESSION
wins "hands down" when
compared to:
•Compaq •NEC •DELL
PC Magazine Jan. 26, 93 issue



$1737

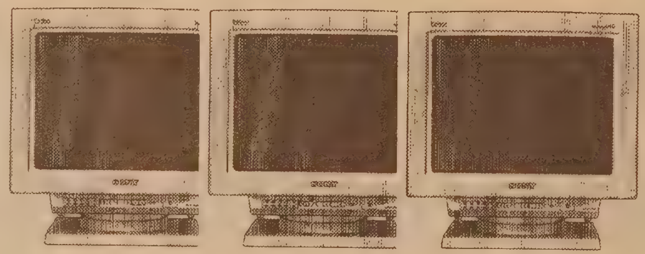
*Monitor not included

PROGRESSION 4 Systems

SMALLER FOOTPRINT THAN PROGRESSION!

486SX-33 120MB HDD	**$1350**
486SX-33 240MB HDD	**1499**
486DX2-50 120MB HDD	**1630**
486DX2-66 120MB HDD	**1784**

SONY



Trinitron Digital Control Color Monitor

GDM-2036

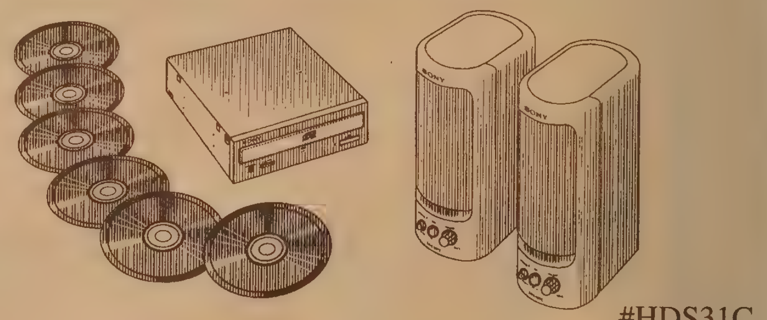
$1993

- **20"** Super Fine Pitch™ Multiscan Trinitron color display
- .30mm aperture Grille pitch, 1280 X 1024 Non-interlaced
- Overscanning for crisp edge-to-edge images
- Sony Display Memory System
- Full compliance with Swedish MPR II standards

CPD-1430	14"	1024x768	.25mm	**$599**
CPD-1730	17"	1024x768	.25mm	**999**

Desktop Library

Complete Internal Multimedia CD-ROM System



#HDS31C

NEW LOWER PRICE!

- Caddyless, half-height internal drive with 550 ms access time
- Compatible with MPC & multisession Photo CD standards
- 16-bit sound/interface board
- Two Sony speakers with batteries
- Cable, software and more...
- Includes the follwing CD-ROM titles:

-GeoWorks CD-ROM Manager, Tempra for Photo CD
-New Grolier Multimedia Encyclopedia-Great Wonders of the World Vol. 1
-Time Magazine Compact Almanac-Presidents: It All Started with George
-Where in the World is Carmen San Diego Deluxe

$444

ACCESS
COMPUTER TECHNOLOGIES

408-247-4444
2225 EL CAMINO REAL SANTA CLARA, CA 95050
Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

MISCELLANEOUS

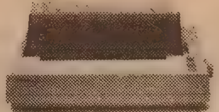
SUPER PRODUCTS From... $4⁹⁹

NEW!
FaceLift

Targus Leather Laptop Case CAS003	$69
Bitstream FaceLift for Windows SSW861	4⁹⁹
Xerox Presents software SSK001	19
Panasonic Notebook Case IAP150C	9⁹⁹
VGA Dimmer software	6⁹⁹
SuperStor compression software SST363	19
CMS 60MB Internal Tape backup HTA060	59
Video 7 Win . VGA Card ADN216	89
Bellsouth Big Button Phone PHB176	29⁹⁵
Everex EV-125 Magic 16 Card	19
12" Mono Monitor Filter XSP12M	5⁹⁹
IBM PS/2 1200 Int. Modem ADC012P	6⁹⁹
Epson LQ Multi-Font Module PTE7407	2⁹⁹
Fellows Paper Shreeder 36070	89⁹⁹
Fellows Anti-Glare Filter 91867	12⁹⁹
Brother Color Kit M1824/1924 PXBCK100	29
Brother Color Ribbon M18/19 series PXB9095	9⁹⁹
Brother Film Ribbon M18/19 series PXB9097	9⁹⁹
Citizen CSF GSX-145 CSF145	29
Seagate 157A 40MB IDE HDS157	99
Fax Modem for Ultrathin Notebook LTCFAX	69
NEC Color Kit P62/6300 PTN500C	29
Epson EPL6000 Font Cartridge PTEH65	19
TEAC Tape Backup 40MB Int. HTT040I	69
Canon BJ-10 Carrying Case PTC010G	6⁹⁹
Sydos 44MB Int. Removable w/ interface HDS44I	399
PDP Pacific SI 1MB for IIlsi PDP903	39
256K exp. for DeskJet 500 series PTA500M	49
Printer Muffler 132 column XTP132	29
Teak 5 1/4" Disk Cabinet XFD64	$9⁹⁹
Teak 5 1/4" Disk Cabinet w/lock XFD70	9⁹⁹
Teak Video Cassette Holder XVCR	9⁹⁹
6-Outlet Power Strip XSP022	3⁹⁹

PRINTERS

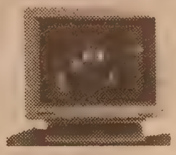
From... $12



Atari Draft PTA001	$12
Fujitsiu DL-4600 PTF4600	229
TI XL 16ppm Laser Printer PTT100	1299
Newgen Turbo PS/400P PTN400	1599

MONITORS

From... $169



Sony 14" 1304s MTS1304	$449
Hyundai 14" HCM-405TMTH405T	169
NEC 15" Multisync Plus MTN1501	299

CELLULAR PHONES

HANDHELDS from... $179

MOTOROLA:

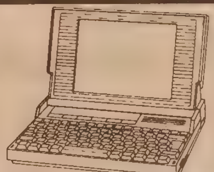
8000HX Handheld	$179
2600 Bag Transportable	119

UNIDEN:

CP6000 Handheld	179

NOTEBOOKS

From... $699



EVEREX 386s:

Tempo LX SX20-1MB RAM 60HDD	$699
Carrier SX20-2MB RAM 40HDD	799

NI-CAD BATTERY

EVEREX $60 *For Carrier*

MULTIMEDIA

Magnavox CDM461	$149
Sony CD-Laser Library HDS7205	299
Thunder & Lightning Card ADS202	129
I/F for CD-ROM Drive HDS7205i	69

FAX•MACHINES

From... $199

Tote-Vision HF-200	$199
Brother Intellifax 600	369
w/CUTTER:	
Muratec M910	339
Brother Intellifax 700	429
Panasonic KX-F230 w/ ans. Machine	469
w/MEMORY:	
Brother Intellifax 800M	499
Panafax PX-150	539
INKJET:	
Panafax UF-312	999

TELEPHONES

Panasonic

From... $39⁹⁹

KX-T3170 3-LINE PHONE	$99
KX-T1740 2-LINE ANS. MACHINE	99
KX-T4400 CORDLESS PHONE	178
KX-T2720 INTERGRATED PHONE	139
KX-T8000 ALL DIGITAL ANS. MACHINE	169
KX-T1460 VOICE TIME/DAY ANS. MACHINE	59⁹⁹
KX-T1540 DUAL CASS. ANS. MACHINE	49⁹⁹
KX-T3910 CORDLESS PHONE	115
KX-T3860 BLK. CORDLESS PHONE	129
KX-T2315 DESKTOP TELEPHONE	39⁹⁹
KX-T2355 DESKTOP TELEPHONE	44⁹⁹
KX-T3145 2-LINE TELEPHONE	59⁹⁹

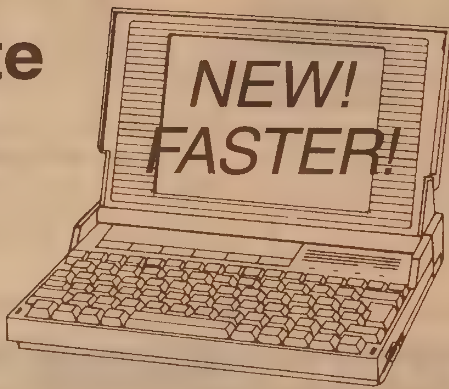
Many items are clearance, demos or one-of-a-kinds. Some may be out-of-box and have no manuals. Most have original manufactuers warranties, certain restrictions may apply. Quantities are limited to stock-on-hand!

SAVE ON EVERYTHING!

EPSON

WHEN YOU'VE GOT AN EPSON,
YOU'VE GOT A LOT OF COMPANY™

ActionNote 4SLC/33



Fully Loaded!

- **486SLC/33MHz**
- Backlit LCD VGA
- DOS, Windows
- **4MB RAM**
- Logitech trackball
- Carrying case

80MB HDD
SUPER VALUE!!!
$1499

120MB HDD
24/96 Fax Modem
WinFax Lite • BitCom software
$1750

NEC

UltraLite® Versa™ 25C

NEW!

486SL 4MB RAM
180MB HDD

Great Colors!

Great Features:

-Built-in Local Video Bus
-Two PCMCIA Slots
-Removable Screen & HDD

ACCESSORIES AVAILABLE

- 14.4/96 FAX MODEM
- 8MB UPGRADE
- DOCKING STATION
- ETHERNET PCMCIA
- STANDARD BATTERY
- NICAD BATTERY
- CARRYING CASE

- **INTEL** 486SL processor w/25MHz
- RAM exp to 20MB
- Brilliant color SVGA TFT active matrix display
- 64KB cache for enhanced performance
- Upgradable to pen system
- Up to 5 hours of battery life

$3995

VERSA **486SL/33MHz CALL!**

EPSON

WHEN YOU'VE GOT AN EPSON,
YOU'VE GOT A LOT OF COMPANY™

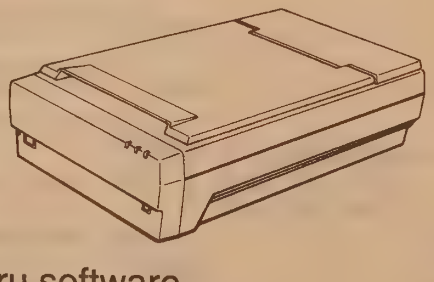
NEW!

ES-800C
24-BIT COLOR SCANNER

High-speed, high-resolution scanning, perfect for professional publishing.

$1199

Interface Kit Not Included

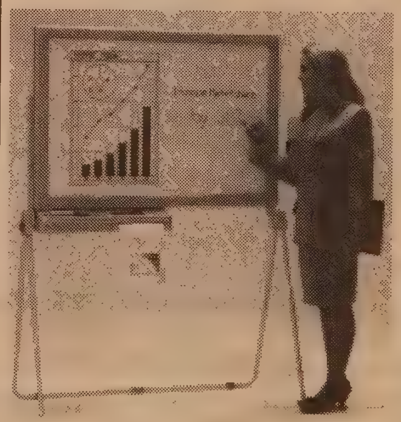


- Up to 800dpi output thru software
- 50% to 200% sizing in 1% steps
- 7 brightness levels
- 3 halftoning modes/4 dither patterns
- Bi-directional parallel & SCSI interface
- Optional interface kit needed

Panasonic

KX-B400 PANABOARD

Transportable Electronic Print Board



Wal Mounted Unit
Stand Is Optional

The Panaboard KX-B400 can copy whatever is written, drawn or even taped to it, all at the touch of a button. The durable surface, which is lined horizontally and vertically for ease of writing, wipes clean with an eraser or damp cloth.

$699

ACCESS COMPUTER TECHNOLOGIES

408-247-4444

2225 EL CAMINO REAL SANTA CLARA, CA 95050

Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

Canon

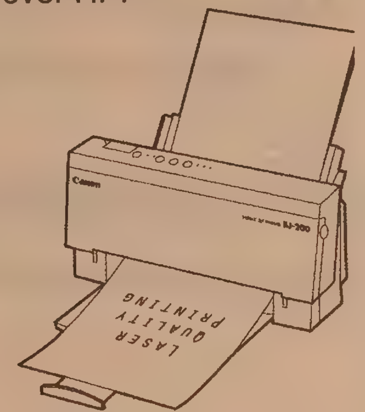
BJ-200 Laser Quality...

At an InkJet Price!

Takes Very Little Space!

4 out of 5 preferred the BJ-200 over HP!

44.2% faster than HP 500!



$297

- Prints up to 248cps
- 7 resident fonts
- 100-page sheet feeder
- Hold up to 10 envelopes

BJ-230
11 X 17 capability
$419

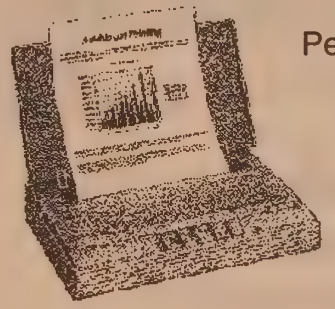
INK JET PRINTER BJ-5

Portable Bubble Jet

SAVE $90 COMPARED TO BJ-10EX!

Identical to BJ-10ex!

Light Weight & Portable!
Perfect for any notebook or Laptop!



ONLY... **$138**

- Prints up to 83cps
- Text & graphics up to360dpi
- Uses plain paper & transparencies
- 90-daylimited warranty
- Unit is remanufactured*

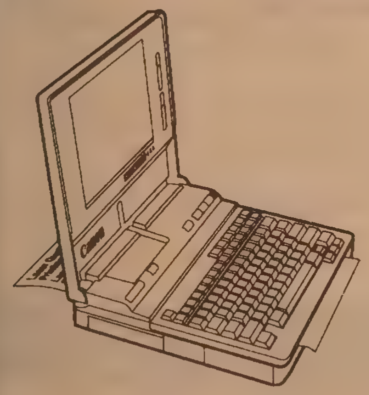
OPTIONAL ACCESSORIES

- CUT SHEET FEEDER
- STANDARD BATTERY
- CARRYING CASE
- INK CARTRIDGES

Canon NoteJet 486...

Computer And Printer In One.

The NoteJet™486 is a full-featured 486 notebook with a built-in high resolution Bubble Jet™ printer!



486SLC-25MHz
4MB RAM
180 MB HDD

Entire system w/battery
Weighs Only 7.7 lbs.

Other Models Available

- Powerful Full-Featured 486 Notebook
- High Quality Bubble Jet™ Printer Built-In
- 2 PCMCIA Expansion Slots
- Built-In 10 Sheet Letter Feeder
- Preloaded DOS, Windows & NoteJet tutorial, and more...

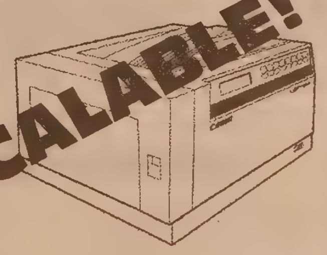
CALL!

LBP-4sx
Laser Beam Printer

Same as HP IIIp for $230 Less!

$666

SCALABLE!

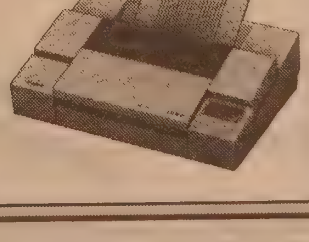


- 4 pages per minute
- 1MB RAM, PCL-5
- Auto emulation switching
- Printer sharing

BJ-800 COLOR Bubble Jet

Brilliant full color and true black
printing on 11 x 17 paper!

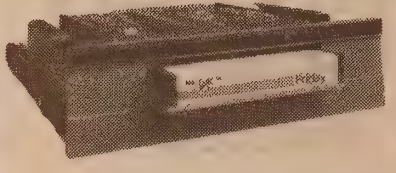
$1599



- 360 dpi high quality color
- Plain paper, envelopes, & transparencies
- 2 year warranty

THROUGHOUT THE STORE!

Tape Backups



COLORADO MEMORY SYSTEMS INC.

JUMBO Internal:

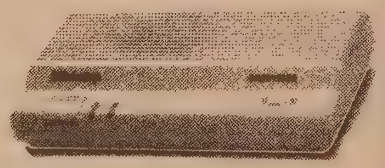
DJ-10 120MB	$137
DJ-20 250MB	188

TRACKER External:

Operates Off Parallel Port!
Ideal For Notebooks!

JT-10 120MB	$298
JT-20 250MB	388

USRobotics
The Intelligent Choice in Data Communications



The Easy-To-Use Modem for People Who Think Like The Pros.

Sportster 14.4/96 Fax Modem

Internal	$199
External	209

SUPER VALUE Lowest Prices Ever!

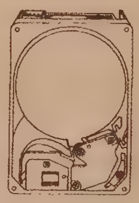
Sportster 14.4/96 Modem

Internal	$169
External	189

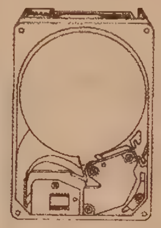
SUPER VALUE Lowest Prices Ever!

Hard Drives

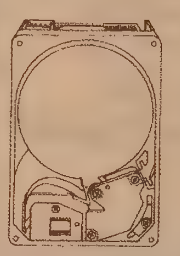
Reliable High-Performance Magnetic Drives to Meet Your Most Demanding Jobs!



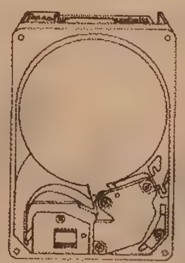
Conner 119MB 19ms IDE	$187
Maxtor 130MB 15ms IDE	209



Conner 170MB 15ms IDE	$175
Maxtor 213MB 15ms SCSI	239



Maxtor 245MB 15ms IDE	$229
Conner 250MB 12ms IDE	225
Maxtor 345MB 13ms SCSI	399
Maxtor 345MB 14ms IDE	303



Conner 513MB 12ms IDE	$749
Maxtor 540MB 8.5ms SCSI II	899
Maxtor 540MB 8.5ms IDE	899
Maxtor 1.02GB 13ms SCSI	999
Maxtor 1.2GB 8.5ms SCSI II	1499
Maxtor 1.4GB 13ms SCSI	1599

ACCESS
COMPUTER TECHNOLOGIES

408-247-4444

2225 EL CAMINO REAL SANTA CLARA, CA 95050

Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

CPU COOLING FAN

Increase performance and extend the life of your CPU!

$19.95
#ICFAN

FLOPPY DRIVES

by TEAC

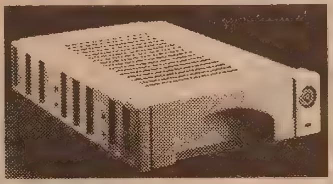
3.5" 1.44MB $54.95
#DSF145T

5.25" 1.2MB $59.95
#DSF005T

MOBIL HDD RACK

For all 3.5" hard drives

Allows easy installation & removal of hard drives. The perfect way to protect & transport all your valuable data!



$39
#HDA001

SIMM MODULES

1MB x 9 60ns	$CALL
1MB x 9 70ns 3 chip	CALL
1MB x 9 70ns 9 chip	CALL
256K x 9 70ns	CALL
4MB x 9 60ns	CALL
4MB x 9 70ns	CALL

MATH COPROCESSORS

intel **Instant acceleration for your power applications.**

80387SX	$CALL
80387DX	CALL
80387SL	CALL

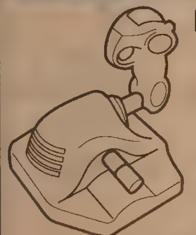
CPUs

intel **High Quality Chips!**

486DX2-50	$CALL
486DX2-66	CALL
486-33	CALL
486-50	CALL

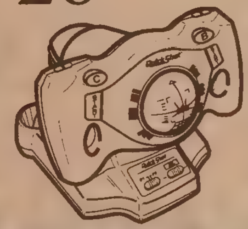
JOY STICKS

by BONDWELL



INTRUDER
$19.99

AVIATOR
$26.99



CASES

Baby Desktop 200W	$75
Full Desktop 285W	99
Mini Tower 200W	79
Medium Tower 200W	85
Full Tower 220W	109
Super Tower 300W	149

I/O & IDE CARDS

AT I/O 2S/1P/1G	$19
IDE Controller	19
IDE w/ 2S/1P/1G	29
VLB IDE w/ 2S/1P/1G	69
VLB IDE Cache Controller	199

ETHERNET CARDS

EtherLink III
Parallel Tasking Network Adapter
by **3COM**

- Featuring 3Com's New Parallel Tasking Architecture
- Remote Manageability with LinkWatch SNMP software
- Lifetime Warranty

16-bit coaxial cable	NIE0163C	$139
10BASE-T	NIE0163T	139

UPS'

Prevent Lost Data...
With an Uninterrupted Power System

250VA	$195
550VA standby w/Novell adapter	299
300VA	349
1250VA w/ Indicator	585

SCSI CONTROLLER

The SCSI Master
Adaptec ISA-to-SCSI High-performance Bus Master Host Adapter Kit

$289
ADH1542B

- Features the **AHA-1542** SCSI host adapter
- Includes SCSIselect configuration firmware utility
- Provides support for HDD, removable, MO & CD-ROM SCSI peripherals
- Includes Adaptec's I/O operating environment support for DOS, Windows, OS/2, Netware and UNIX.

MOTHERBOARDS

ALARIS 486SLC2 66MHz
VESA Standard Local Bus!

Includes CPU! $329

Alaris SLC2 **Board Features:**

- 486SLC2 processor w/ 16KB Internal cache
- 0K exp. to 16MB RAM on-board
- 64KB External RAM cache exp. to 128KB
- 2 VESA Local-Bus slots
- 7 16-bit & 1 8-bit ISA slots
- Mini-AT footprint • 3 year warranty

Manufactured In USA by IBM

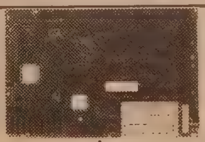
GENOA 486
VESA Standard Local Bus!

$249

- 256K cache
- 0K exp. to 32MB RAM on-board
- Pentium Chip socket
- 2 VESA Local-Bus slots
- 4 16-bit & 2 8-bit ISA slots
- Mini-AT footprint • 2 year warranty

*CPU not included!

CHOOSE YOUR SPEED
33,50, or 66MHz... by Jumper!



SILICON STAR 486
VESA Standard Local Bus!

$169

- 256K cache
- 0K exp. to 32MB RAM on-board
- 2 VESA Local-Bus slots
- 5 16-bit ISA slots
- Mini-AT footprint • 1 year warranty

*CPU not included!

WE'LL BEAT ANYONE'S ADVERTISED PRICE!

*CERTAIN RESTRICTIONS APPLY, SEE STORE FOR MORE DETAILS.

CREATIVE
CREATIVE LABS, INC.

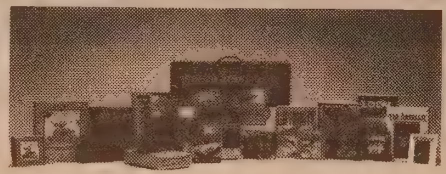
DISCOVERY CD™ 16
Upgrade Kit

- Sound Blaster 16 Sound Card
- Internal CD-ROM drive
- Stereo Speakers
- Software: Toolworks' Encyclopedia, The Animals, Lemmings,and more...
- Windows 3.1 and MPC compatible

$479

8 Bit version $389

EDUTAINMENT CD™ 16
Upgrade Kit



- Sound Blaster 16 Sound Card
- Internal CD-ROM drive
- Stereo Speakers
- Software: Toolworks' Encyclopedia, The Animals, Secret Weapons of the Luftwaffe, Money Island, Loom, Carmen Sandiego & More...

$499

Sound Blaster Pro 16 $159

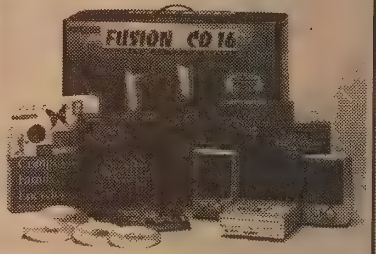
Sound Blaster Deluxe	$85
Sound Blaster Pro Deluxe	129
Sound Blaster 16 ASP	199
Video Blaster	328
Multimedia Starter Kit Internal	377
Multimedia External Upgrade Kit	519

Microphone	$13
RECOTON Speakers:	
Amplified Stereo HG555	29
Amplified Stereo 64545	24
Amplified Stereo 64555	24

MEDIA VISION

FUSION CD 16

SUPER BUNDLE!



- SONY internal CD-ROM Drive
- 4 Top CD Library Titles
- Pro Audio Spectrum 16 Sound Card
- Two Labtec Stereo Speakers
- And More...

$488

FUSION DOUBLE CD 16

FAST BUNDLE!

NEW!

- Multisession Double Speed
- NEC internal CD-ROM Drive
- 350ms access time
- **4** Top CD Library Titles
- Pro Audio Studio Sound Card
- And More...

$639

PRO 16 MULTIMEDIA SYSTEM II

EXTREMELY FAST!

NEW!

- Multisession Double Speed
- NEC internal CD-ROM Drive
- 250ms access time
- **8** Top CD Library Titles
- Pro Audio Studio Sound Card
- And More...

$699

Pro Audio Spectrum 16 $159

HOT!

Pro Movie Spectrum	$288
Pro Audio Studio 16	219

ACCESS

COMPUTER TECHNOLOGIES

408-247-4444

2225 EL CAMINO REAL SANTA CLARA, CA 95050

Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

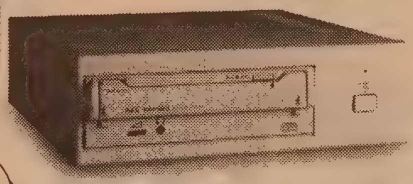
CD-ROM DRIVES

SONY
CDU31A Internal 490ms
transfer speed
$189

PANASONIC
522 Internal 380ms
transfer speed
$229

TOSHIBA
3401 Internal
200ms transfer speed
FAST!
$499
EXTERNAL $649

TEXEL
DM-3024 Internal
265ms transfer speed
FAST!
$419



NEC
SCSI Drives
CDR-84 Internal
280ms transfer speed
FAST!
$449
External
280ms transfer speed
$529

Hundreds of CD-ROM Software to Choose From... For Example:

EDUCATIONAL TITLES:

Titles from $13...

Animals 1.0	$21
Barron's College Guide	26
Beauty & the Beast	17
Bring the World to Your Senses	13
CIA World FactBook	25
Composer Quest	29
Compton's MPC Encyclopedia	59
Desert Storm MPC	22
Dictionary of the Living World	31
Dinosaur Adventure	27
Electronic Home Library	29
Family Choice Britanica	21
Family Doctor	23
Family Education Collections	22
Great Cities of the World vol. 1	22
Great Cities of the World vol. 2	22
MacMillian Dic. for Children	34
Kodak Photo CD Access	17
Mavis Teaches Typing	25
Mayo Clinic Family Health Book	25
Microsoft Bookshelf	49
National Park	22
Nat'l Geographic Mammals	25
Mixed Up Mother Goose	22
Playing with Language English	27
Playing with Language French	27
Playing with Language German	27
Playing with Language Japanese	27
Playing with Language Spanish	27
Presidents	98
TIME Almanac 1991	21
Time Table of History	$18
Toolworks Groliers New Encyclopedia	57
USA Wars: Civil Wares	36
USA Wars: Korea	36
USA Wars: WW II	36
USA Wares: Vietnam	36
US Atlas/ World Atlas	18
US Atlas & Automap	25
US History	26
Vital Signs	98
Wild Places	15
WINWARE vol 1 & 2	22
World Atlas v3.2	18
World View	14

BUSINESS TITLES:

Titles from $16...

American Business Phone Book	$19
Business & Economic Atlas	22
DTP Pro	22
Shakespeare	16
Jets & Props	25
Lotus 1-2-3	102
Sound Library	17
Marketing Master 1992	21
Media clips 4 pack	49
Microsoft Works	48
PC Graphic & Sound Demo	17
Sports Best	21
Publish It 2.0	26

FUN AND GAMES:

Titles from $14...

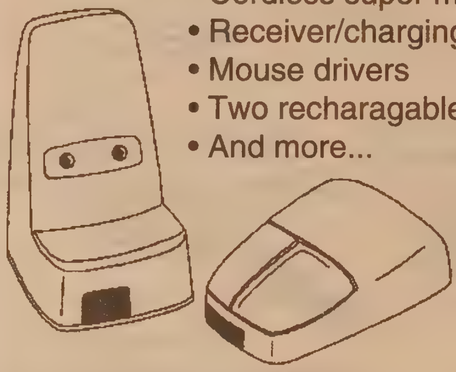
Arthur's Teacher Trouble	$29
Arthur's Star for Windows	54
Beyond The Wall Of Stars	26
Carmen San Diego	25
CD StoryTime	19
CD Game Pack II	25
Chessmaster 3000	21
Interactive Storytime Vol. 1	25
Jones in the Fast Lane	21
Killer Truck CD-Music Library	18
King's Quest V	21
Loom	21
Macromedia Action for Windows	34
Mario Is Missing	25
MIDI Music Shop	22
Monkey Island	24
Peter and the Wolf	18
Reference Library	22
Renaissance Masters I MPC	30
Secret Weapons of Luftwaffe	21
SFX-300 Sound Effects	17
Sherlock Holmes Consulting Det.	19
So Much Shareware I	14
So Much Shareware II	19
Space Adventure	22
Space Quest IV	22
Stellar 7	26
The Shareware Concept	17
Total Baseball	18
Whale of Tale	87
Who Killed Sam Rupert	27
Wing Commander & Ultima V	21
Wizard MPC	17

SUPER SAVINGS & SELECTION

CORDLESS MOUSE

by Z-NIX

- Cordless super mouse
- Receiver/charging stand
- Mouse drivers
- Two recharagable batteries
- And more...

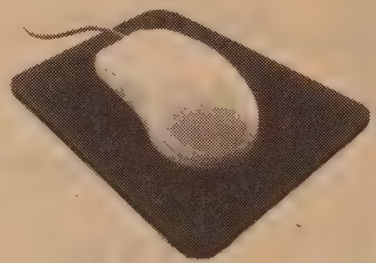


$39

Microsoft Mouse

*Fits the Way You Work-
with Ergonomic Comfort!*

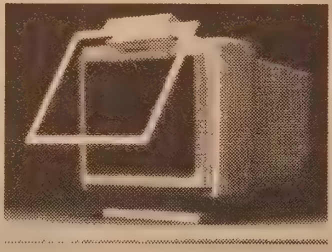
NEW!



$69.99 Serial version

PS/2 version $89

REDUCE Electromagnetic Radiation by 99.99%



The NoRad UltraGlass™ & Radiation Shield™

- Eliminates Static Electricity • Eliminates Glare & Reflections • Enhances Apparent Contrast
- Blocks Virtually all E-field Radiation
- Highest Resolution Screen Available
- Effective on Color or Mono displayes

From... **$99**

Available In Most Sizes!

RHINO™

Hard Protection/Soft Bag

Notebook/Laptop Carrying Case

12 Models In stock!

CELLULAR ARMOR A high density thermoplastic with a double-wall honeycomb design which elastically diperses any shock. It protects valuable equipment from damage, shooting the shock out and away, and it is also a great insulator against the heat and cold.

Starting from... **$39.95** Model AC-21

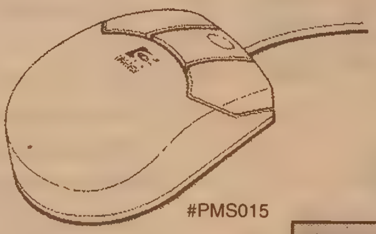
INNOVATIONS '91 DESIGN & ENGINEERING AWARD CONSUMER ELECTRONICS SHOW

LOGITECH

MouseMan™

High Resolution Serial PS/2 Mouse

Don't be caught with a dying mouse!



#PMS015

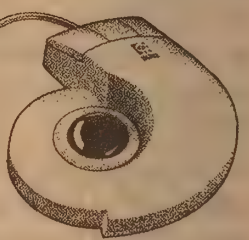
- 400dpi resolution
- Three programmable button flexibility
- New ergonomic design
- Enhanced MouseWare™ Utilities
- Windows™ 3.1 compatible
- IBM PC, XT, AT, PS/1, PS/2 compatible

TrackMan™

High Precision Stationary Mouse

NEW!

Designed for Comfort and Precision



- Three programmable button flexibility
- New ergonomic design
- Enhanced MouseWare™ Utilities
- Guaranteed to work with all Windows™ and DOS applications

#PML100S

Prices too Low to Advertise!

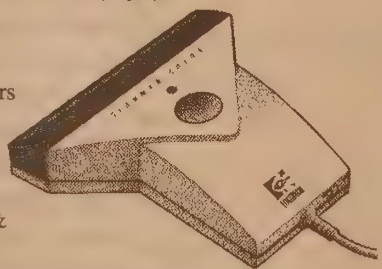
Call Us!

ScanMan™

Hand-Held Color Scanner

NEW!

Add the Impact of Color!



- 24-bit hardware, captures 16.8 million colors
- Virtual page scanning-auto stich, multiple scans together
- Total system calibration-color matching
- Saves images in TIFF, BMP, PCX, JPEG & EPS formats
- Supports Windows™ (OLE) & TWAIN protocols

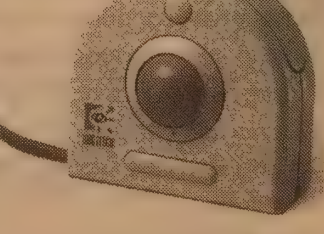
#PMS254

TrackMan™

Portable Mouse

Superior Performance

See and feel the difference



- Small, lightweight and portable, three-button support
- Made to travel, includes sturdy casing & padded case
- Right or left hand w/ re-routable cable
- One piece simple spring clamp installation
- LogiPanel programming buttons in Windows
- Limited lifetime warranty

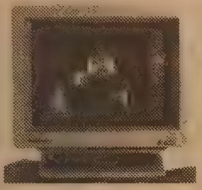
#PML100P

ACCESS COMPUTER TECHNOLOGIES

408-247-4444

2225 EL CAMINO REAL SANTA CLARA, CA 95050

Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93



High Quality Monitors To Fit All Your Needs!

14" Monitors

Impression:	
IM1468M N/I 1024 .28	$299
IM3439SV .39	219
IM3428SV .28	269
NEC:	
SVGA 1431 N/I	359
3FGE 1024 .28 60HZ	588
Nanao F340iW 1024 .28	699
Viewsonic:	
1	239
4e	319
5e	399
6e Dual Voltage	329
6FS NI 1024 .28	555

17" Monitors

Impression 1726N .26	$888
Nanao:	
9080i	868
550iW 1280 .28	1150
F550i	1050
T560i 1280 .26	1699
Viewsonic 7 1280 .28	899

20" Monitors

Nanao:	
T660i 1280	$2399
F750i 1280 .31	1950
760IW 1280 76 Hz	2099
NEC 6FG 1280 .28	2399
Viewsonic 8 1280 .31	1599

GRAPHIC•CARDS

ATI Ultraplus ISA 1MB	$299
ATI Ultrapro ISA 2MB	399
ATI Ultrapro VLB 1MB	329
ATI Ultrapro VLB 2MB	479

DIAMOND Computer Systems, Inc.

SpeedStar VLB Pro 24	$129
Stealth 24 VLB 1MB	189
Viper VLB 2MB	429

Genoa SYSTEMS CORPORATION

8500 VLB 1MB	$149

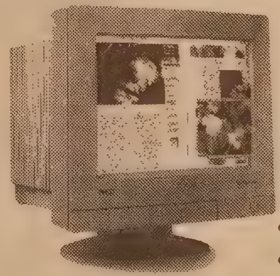
P.C. LOGIC

VColor 1MB SVGA	$95

NEC

15" SVGA Monitor

4FGe $698



- 1024 X 768
- .28mm dot pitch
- 76Hz refresh rate
- 3 year parts & labor

17" SVGA Monitor

5FGe $1088

*Valid thru 8/31/93

FREE LENS COVER*

NANAO

17" SVGA Monitor

F550i

SPECIAL BUY!

SAVE $150!

$899*

- Up to1280x1024
- .28mm dot pitch
- Flat screen
- Analog RGB input
- 1 year warranty
- Monitor is remanufactured*

ViewSonic™ 17

17" SVGA Monitor

NEW!

$1099

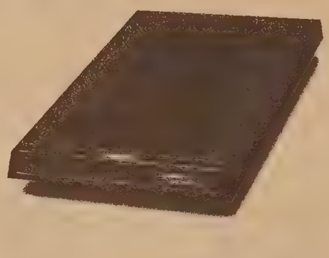
ViewMatch™ Color Control

- Up to1280x1024 ,76Hz refresh
- .28mm dot pitch
- 30-82 kHz scan frequency
- Analog RGB input

15" 1280 x 1024	**$545**
20" 1600 x 1280	**1850**

DON'T FORGET TO STOP BY!

Hayes®



MADE IN
USA

2400bps
External Modem

$39

Software
Included!

QUICKPATH

PORT-FOLIO
16452

13-Port Super I/O Card

4 INTERGRATED NS16452
HIGH SPEED UARTs

- 2 IDE HD
- 2 Parallel
- 4 Serial
- 4 Floppy
- 1 Game

$99

ALL CABLES INCLUDED
3 YEAR WARRANTY

Summagraphics
Summa Sketch III
12 x 12 Graphics Tablet

$349 PMS504

FUJITSU
JOYRITER
Portable Printer

Super Small
1 inch thick
Weighing only 2.6 lbs.

FP-180A

- 360dpi resolution
- 48 dot thermal transfer
- 4 fonts standard
- 1 year warranty
- IBM Proprinter X24e, Epson LQ850 emulation
- Optional Cut Sheet Feeder $89

$379

star
FULL COLOR
PORTABLE PRINTER

SJ-144

- Up to 620 cps
- 360 x 360 dpi
- 15 scalable fonts
- 2 year limited warranty

HEAT TRANSFER
COLOR PRINTER!

$549

NEC

NEW!

Jetmate™ 1000

Thermal Ink Jet Technology

**High Quality Output...
At a Budget Price.**

$308

*Small & Compact
12.5 lbs.*

- 300dpi, 300 cps in LQ mode
- Built-in 100 page feeder
- 128K RAM
- Windows 3.1 driver included
- 20 Free TrueType fonts
- Prints legal & envelopes
- HP Deskjet emulation
- 2 year parts & labor

ACCESS COMPUTER TECHNOLOGIES

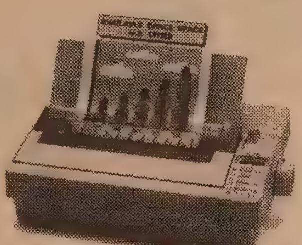
408-247-4444

2225 EL CAMINO REAL SANTA CLARA, CA 95050
Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

CITIZEN

COLOR DOT MATRIX PRINTER

THE ONLY COLOR PRINTER UNDER $200!



$199

GSX-130

- **24-pin printer** • 180cps, 60cps LQ
- 5 built-in fonts • Fontlocking feature
- Paper parking • Features Command-Vue II™ control panel
- Optional Color On Command™ • 2 year limited warranty

PRINTER ACCESSORIES

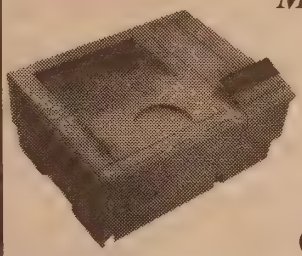
NEC Silentwriter Series:	
250 Sheet Cassette PXN9057	249
HP Series:	
IIP Cassette PTA200G	79
III Letter Tray PTA812	69
III Legal Tray PTA810	79
III Envelope Tray PTA830	89
IV 250 Sheet Tray HP2085A	89
IV 500 Sheet Tray HP2084B	109
OKI:	
400/800 Legal Tray PXO3701	89
400/800 Env. Tray PX013801	109
321/391 Tractor fd. PXO391T	79

NEC

Get The Perfect Deal On The Laser Printer That's A "Perfect 10"

Silentwriter® 95f

MAC Compatible!



POSTSCRIPT™

$949

- 6 PPM, 2MB RAM exp. to 5MB
- 35 scalable Adobe fonts
- 14 bitmap & 8 scalable HP fonts
- HP LaserJet III w/PCL-5 emulation
- Auto Interface Monitoring for easy sharing

Silentwriter® 97 [illegible] $1299

Silentwriter is a registered trademark of NEC Technologies, Inc.

OKIDATA® *LED Page Printers*

OKI OK!

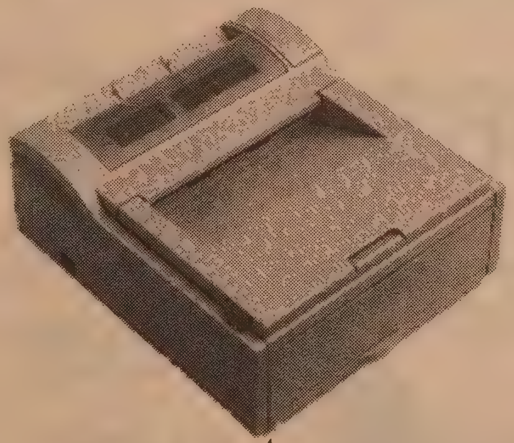
NEW!

OL400e.

In a Class By Itself

The Best Value in Personal Printers

- Compact size and sleek design fits comfortably on any desktop
- Fast 4ppm printing with RISC microprocessor for higher productivity
- 44 fonts for great-looking correspondence and reports
- Perfectly compatible with virtually all software applications



$499.99

OL810.

With OKI Smoothing Technology™ PCL-5 Scalable Fonts

$949

- Industry's best warranty: 5 years on printhead, 1 year parts/labor on printer
- OKI Smoothing Technology™ for 1200dpi apperance
- 8ppm, 300dpi: crisp blacks, publication quality output
- 1 MB RAM exp. to 5MB, 13 HP III scalable fonts
- High-capacity 200-sheet paper tray included
- HP® Series III compatible
- Optional RS-232 Serial interface

OKIDATA Reg. T.M., M.D.; OKI Electric Industry Co., Ltd.; Windows T.M., Microsoft Corp.

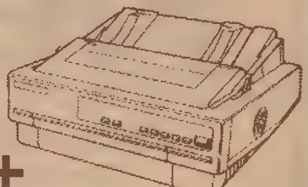
9-PIN	•ML-320/321 300cps	$319 /459
	•ML-520/521 auto form sensing	388 / 519
	•ML-3410Fast 550cps! 8-part forms	1288
24-PIN	•ML-380 192cps, 63cps	229
	•ML-590/591 auto form sensing	469/599
	•ML-395 NEW! Fast 607cps 5-PART FORMS	995

FREE PRINTER STAND W/ANY DOT MATRIX

*W/ ANY DOT MATRIX PURCHASE XTP004

EPSON®

WHEN YOU'VE GOT AN EPSON, YOU'VE GOT A LOT OF COMPANY™



LQ-570+

NEW! Faster w/ more fonts!

FREE Letter Quality Film Ribbon w/ purchase!*

- 24-pin, 337cps
- 14 built-in fonts
- 2 year warranty

$238

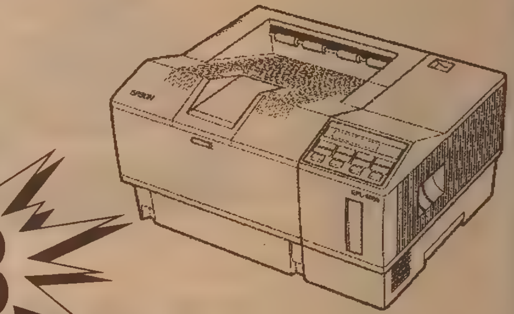
*Offer valid on LQ 570+thru Dec. 31, 1993

AP-2250/3250 *9-pin / 24-pin 80 column*	$129/179
LX-810 *9-pin 80 column*	$169
FX-870/1170	279/359
DFX-5000 *9-pin SUPER FAST 530cps!*	1350
DFX-8000 *9-pin SUPER FAST 1066cps!*	2299
LQ-870	$469
LQ-1170	609
LQ-2550 400cps	899

EPL-8000

Great Features Such as:
-Scalable Fonts
-Printer Sharing
-And More...

TWICE AS FAST AS HP IIIP (4ppm) FOR LESS!



$868

- 10ppm • 1MB RAM exp. to 7.5MB
- PCL-5, 13 scalable fonts
- Includes RITech for crisp, sharp images
- Built-in printer sharing • 2-year warranty

EPSON®

WHEN YOU'VE GOT AN EPSON, YOU'VE GOT A LOT OF COMPANY™

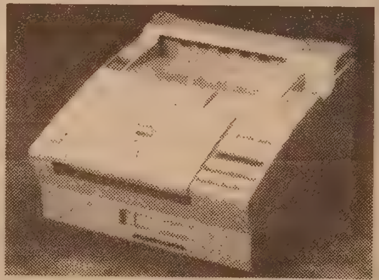
NEW!

ActionLaser 1500

$688

Scalable!

- 6ppm • 1MB Ram exp. to 5MB
- 14 resident, 13 scalable fonts
- 1 cartridge slot
- 150-sheet universal tray
- HP III/IIIsi, PCL-5 emulation
- 2 year warranty



ActionLaser 1000

$629

- 6ppm
- 512K Ram exp. to 6.5MB
- 14 standard fonts
- 1 cartridge slot
- 150-sheet universal tray
- HP IIP, PCL-4 emulation
- 2 year warranty

$50 REBATE!

STYLUS 800 INK JET PRINTER

The look of laser printing at an affordable price.

Replacement Ink Cartridge
PTE800C
$19.95

$298*

- Fast 150cps • Crisp 360 dpi laser quality
- 7 typefaces w/ 4 scalable fonts • Quiet 45dBA
- Compact footprint • 100-sheet plain paper tray
- Prints envelopes with ease • 2 year warranty

*Price reflects a $50 end-user mail-in mfr's. rebate, valid thru 10/31/93

ACCESS 408-247-4444

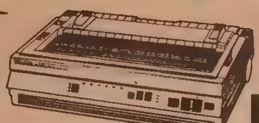
COMPUTER TECHNOLOGIES

2225 EL CAMINO REAL SANTA CLARA, CA 95050

Not responsible for typos / Price subject to change w/o notice / Price good thru 9/19/93

Panasonic
Office Automation

SAVE $150



KX-P1123
$149
- 24-pin • 240cps, 63cps LQ
- 7 built-in fonts • 2 year warranty

KX-P1624
$249
- 24-pin • 192cps, 63cps LQ
- 7 built-in fonts • 2 year warranty

KX-P1124i	24-pin ,300cps, 11 built-in fonts	$189
KX-P2123	24-pin, 240cps, color capable	179

*THESE ARE FACTORY REMANUFACTURED & FULLY GUARANTEED

DOT MATRIX PRINTERS

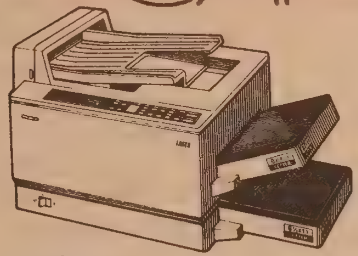
KX-P1124i	24-pin, 300cps, 8 fonts	$249
KX-P1695	9-pin, 330cps wide carriage	349
KX-P1624	24-pin, wide carriage	329

The *QUIET* Series Printers
Come Hear the Difference! **43.5 dBA!**
2100 series Color Option $49.95

KX-P2023	24-pin, 240cps, 7 fonts	$189
KX-P2123	24-pin, 240cps , 6 fonts	229
KX-P2180	9-pin, 240cps, 6NLQ fonts	155
KX-P2624	24-pin, 300cps, 11 fonts	378

KX-P4455 PostScript Laser

Accessories for 4455/4450i	
Legal Tray	$49
Envelope Tray	.69
Toner	49
Drum Unit	169
Developer	129

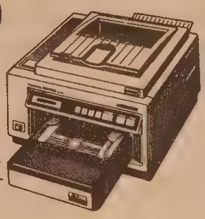


$1666
- 2MB RAM exp to 4MB
- Two 250 sheet paper trays
- 39 PostScript fonts • 11PPM

POSTSCRIPT

KX-P4450i $999

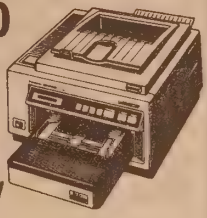
KX-P4430
Laser Printer



Scalable Fonts!

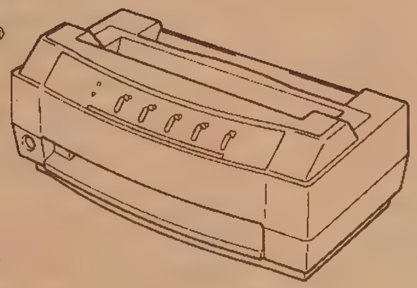
$649 NEW LOWER PRICE!
- 1MB RAM exp to 5MB
- **PCL-5 Scalable**
- 300 dpi resolution • 5 PPM
- 200 sheet paper capacity

KX-P4410
Laser Printer
5ppm!
FREE Adobe Type Manager!



$555 NEW LOWER PRICE!
- 512K RAM exp to 4.5MB
- 200 sheet paper capacity
- 300 dpi resolution • 5 PPM

brother
We're at your side.



NEW!

- *MAC & PC Compatible*
- *Small Foot Print*

HJ-400 Desktop Ink Jet Printer

- 360 x 360 dpi resolution
- 100 page cut sheet feeder
- 12 resident fonts
- TrueType compatible
- Auto interface sensing
- Rear & front paper paths
- Prints legal, A4 & envelopes
- Disposable printhead cartridge
- IBM, Windows & MAC compatible
- 2 year limited warranty

Super Value!

$299

HEWLETT PACKARD

DeskJet 500	Ink Jet		$299
IIIP	4ppm, PCL-5		869
4L	*NEW!*		699
4	8ppm, 600dpi, PCL-5		1369
4M	6ppm PostScript MAC/IBM		1899
4Si	17ppm, auto interface switch	*NEW!*	3299

Toner Cartridges
HP II/III
$49*
PXA201 *remanufactured

COLOR PRINTERS

DeskJet 500C		399
DeskJet 550C		588
DeskJet 1200C	Color 6ppm 2MB RAM *NEW!*	1399

SCANNERS

ScanJet IIP with interface	799
ScanJet IIC Color with interface	1399

BMUG's Choice for Macintosh Specialty Store

MAC℠

Modern Accessories for Computers
Since 1985

800-BUY-A-MAC	Order Line for US & CA (Toll Free!)
(510) 644-0500	General Number / Sales Department
(510) 549-8785	Macintosh Repairs
(510) 644-0584	Order by Fax

2156A University Avenue, Berkeley, CA 94704

Rental, Lease or Purchase of Macintosh

Store Hours
10:00 a.m. -- 6:00 p.m.
MON -- SAT

ATM VISA MasterCard

TOP 10 Store in the Bay Area ... San Francisco Examiner Reader Poll

Modem

PowerPort Gold for PowerBook	$399
PB DataLink w/ Voice FaxModem	$439
Supra 2400 Baud Modem W/ Cable	$99
Supra 24/96 FaxModem W/ Microphone	$199
Supra FaxModem v.32bis 14,400	$359
Teleport Gold v.32bis 14,400	$459
US Robotics Mac&Fax 14,400	$279

Printer

NEC SilentWriter Model 95 $995
- True 300 dpi Adobe PostScript II Printer
- 8000-Page Toner & Cable Included

Canon 10ex/Power Print Bundle $439
- 360 dpi, Canon Bubble Jet Printer
- Compact, Portable--Perfect Powerbook Companion

StyleWriter II, w/ Cable, *In Stock* $339

Memory Upgrade

1 Meg Simms, 100/120ns	In Stock
1 Meg Simms, 80ns	In Stock
2 Meg Simms, 80ns	In Stock
4 Meg Simms, 80ns	In Stock
4 Meg Simms, Centris, Quadra 800	In Stock
6 Meg Board, PowerBook	In Stock
4 to 14 Meg Board, PB Duo	In Stock
4 to 10 Meg Board, PB 180	In Stock
4 to 10 Meg Board, PB 165c/180c	In Stock

Mass Micro

Free 3-Year Warranty

DataPak Removable 44, W/ 1 Cartridge	$479
DataPak Removable 44, W/ 2 Cartridge	$539
DataPak Removable 88c	$619

- New Model, Read & Write44 & 88MB Format

Free Scanner

UMAX ScanOffice G/S Scanner $895
- Ofoto, TypeReader,Publish It! Easy Included, $1000 Value
- Award-winning total office scanning solution

UMAX 630LE 600 dpi Color Scanner $895

UMAX 630 600 dpi Color Scanner $1095
- 24 Bit Photo-Realistic Color / 256 Gray-Scale
- Best Rated Scanner by MacUser Magazine
- Photoshop Version 2.5 Included

UMAX 840 800dpi Color Scanner $134

UMAX 1200SE 1200dpi Color Scanner $319
- 10 bit per pixel, 30 bit, 1 billion colors
- Excellent for professional prepress & image editing
- Slides, transparencies and X-ray images supported

Radius

Radius Precision Color Pivot $999
- Works on Centris 610, 650, Quadra 800 & 950

Radius Pivot $639
- Crisp, Clear Full Page Viewing
- Portrait and Landscape Views

Radius Precision Color 24XP $509
- 24 Bit Accelerated Card for 16" and 14" Monitors

Radius TPD/19 Monitor $729
- Works with Centris & Quadra Built-In Video Port

CLEARANCE

20 MB HD, Battery Operated Ext. Case	$149
Abaton Color Flat-Bed Scanner	$595
DeskWriter, *Used*	$249
GCC WriteMove Portable Printer	$199
Mac SE 2.5 MB / 20HD W/ Keyboard	$499
Mac SE/30 2 MB / 40HD W/ Keyboard	$895
Radius TPD/19 / Pivot, *Demo*	$595/ $495
SuperMac Platinum 21" B/W, *Open Box, New*	$895
SuperMac 21" Color, *Open Box, New*	$1995
SuperMac Video Spigot, IIsi,Premiere	$279

Back to School Special
Buy any Macintosh
Receive Mac Write Pro for $69

(Value at $249)

PowerBook Upgrade

80 MB HD*	$295
120 MB HD*	$379
213 MB HD*	$679
Full Cycle Charger	$139
PowerPort Gold	$399
DateLink Voice FaxModem	$439

*Upgrade/Swap Price
Labor Charge Extra

* Macintosh Rebate Up to $350

PowerBook 160 4MB/80HD	$1799
Mac Color Classic 4MB/80HD	$1119*
Mac IIvx 5MB/80HD, *In Stock*	$1449*
Mac Centris 610 4MB/80HD	$1329*
Mac Centris 650 4MB/80HD	$1695
Mac Centris 650 8MB/80HD	$1919
Mac Centris 650 8MB/230HD/CD	$2579
Mac Quadra 800 8MB/230HD	$3199
Mac Quadra 950 8MB	$3395
PB 145B 4MB/80HD, *In Stock*	$1499
PB 165C 4MB/80HD	$2099
PowerBook 180C 4MB/160HD	$3799
PowerBook 210, 4MB/80HD	$1299*
PowerBook Duo Dock, *In Stock*	$849*
Apple CD 300, New Low Price	$409
Sony 1320 14" Trinitron, LCIII, Centris	$399

Mac Trade-In

SAVE on SALES TAX

- We Buy or Trade Any Macintosh CPU (Mac Plus minimum) & Peripherals
- Save on Sales Tax - Pay Tax on the Difference to the Trade in

HD Price Reduction

Prices Good w/ Ad Only

†External Unit Add $90 ea.

Quantum ELS 42MB HD	$209†	Apple 40MB Battery Ext HD	$195
Quantum ELS 85MB HD	$239†	Apple 500MB HD	$795
Quantum ELS 170MB HD	$299†	Fujitsu 520MB HD	$795†
Quantum LPS 240MB HD	$369†	Fujitsu 1.2 Gig HD	$1295†

Macintosh Rentals

Security Deposit Required

Mac SE	Mac SE/30	Mac Plus	PowerBook 145B
4MB/40HD	4MB/40HD	2MB/20HD	4MB/40HD
$69	$89	$59	$199
Monthly	Monthly	Monthly	Monthly

Macintosh Lease To Own

Mac Centris 650 8MB/230HD, *New Low Rate*	$79/Mo
Mac Quadra 800 8MB/230HD, *New Low Rate*	$113/Mo
Mac Quadra 950 8MB, *New Low Rate*	$120/Mo
Apple 14" Color Display	$19/Mo
Apple 16" Color Display	$44/Mo
NEC Silentwriter 95, *New Low Rate*	$35/Mo
LaserWriter Pro 600, 8MB RAM	$67/Mo
LaserWriter Pro 630, 8MB RAM	$88/Mo
SuperMac 20" Multimode XL Trinitron	$92/Mo
SuperMac 21" Platnum Monitor	$39/Mo
Thunder 24 Video Board--*Fastest 24 Bit*	$85/Mo

Lease payment based on 36Mo/$1 Program, Business Lease Only

Prices Advertised Are for Micro Times Readers Only. Please Mention This Ad When You Call or Visit Us.

This Ad Expires Sep. 20, 1993

Back To School With BMUG

BY DAVID MORGENSTERN

As I have mentioned in previous columns, the wearer of a BMUG tie-dyed T-shirt is recognizable around the world as a cognoscente of things Macintosh and undeniably cool—the back side reads *Tied-dyed in Berkeley by Deadheads.* BMUG members have found it a great way to meet new friends while sitting in classes, shopping in the mall, or even avoiding the UV on the beach. It's especially good at baseball games, I discovered recently.

While at a Giants game (leading the league by nine games as I write these words), I was approached by a semi-tough-looking guy who wanted to know if I lived in a particular San Francisco neighborhood. He spilled the beans that a local "fraternal organization" known as the B–Muggers was influential in the vicinity. I was able to persuade him that BMUGers were interested in the give and take of information, rather than...

I did *not* spend the rest of the game looking over my shoulder, concerned that a member of a rival association with poor spelling skills might settle a score on my head. Both the Giants' lead and my scalp survived the final inning.

BMUG

KNOWLEDGE IS POWER

This is the season of educational beginnings and returns. A time for sharpening the No. 2 lead pencils, and regretting another wasted summer reading popular mass-market trash instead of the required reading for the upcoming semester. It's also a time to consider buying a Macintosh for yourself, or the younger students in your family.

Computing power is no longer just one of a number of incidental advantages you can provide for your favorite student—it is now a necessary expense for academic success. Until a few years ago, the computer was often thought of as an egghead typewriter, something of interest for those pursuing business or scientific degrees. The hard-core technophobe could ignore the benefits of computer-based word and data processing, pointing to analog devices that could do the job. The *if pens, pencils, index cards, and typewriters were good enough...* adage of our grandparents, parents, or elder siblings is coming face to face with the demands of the Information Age. Unfortunately, many students, teachers, and information providers are unprepared for the realities of academic existence.

Recently, the chancellor of the California State University system, Barry Munitz, reportedly announced that the Fort Ord campus, due to open in 1995, will sport an electronic library, rather than a traditional book library. He also called for a freeze on all new library construction for the other twenty campuses, serving 350,000 students. Munitz said that he will have the cooperation of Apple and other computer companies, to build a "virtual library" on the campus. Information on demand. Isn't this what we've always wanted? Perhaps not, based on the day-to-day experience of today's library workers.

It's not unusual to see a look of bewilderment on the faces of both patrons and librarians in modern academic libraries. Everyone's trying to keep up with the new digital catalogs, computer-based indexes, and searching tools. Experienced computer users have a much better chance of leaving the library with the information they need, having spent their time digging up the required journal articles, citations, and even books, instead of learning how to use the searching system. There is just not enough time to bring every library user up to speed while standing at the reference desk.

Information is now a commodity, peddled by megabuck corporations to libraries and online services. They provide the subject indexes to hundreds of periodicals, and sometimes the actual texts of the articles themselves on CD-ROM. The files are commonly used through standalone or local-area-networked bibliographic workstations. To afford these databases, many libraries are cutting back on paper-based periodical subscriptions.

You would think that computers would automatically provide more access than a single paper copy of a periodical, but that is not so. Since users have only a few workstations to access a particular journal article, there could be times of overwhelming demand. Think of a supermarket, full of goods, where only one shopper at a time is allowed through the doors. In the future, after clearing legal hurdles, and the creation of resource sharing arrangements between campuses, more of this information will become available to students and faculty over the Internet.

There are also serious questions about what subjects a virtual library can cover at this moment in info-history. If you're interested in biotechnology, big business, or computers, you're in luck. Working in the Humanities, Creative Arts, or the Social Sciences? Could be trouble. It's also a laugh, all the proud pointing at classic texts available in data format. It's great to have Proust and other copyright-free books on your computer desktop, but what students really want are the shelves of books that analyze the author and the work. There's a tremendous distance between the demands of today's info-maniacs, and the requisites of genuine scholarship. It may be necessary for schools to subsidize the digital conversion of "unpopular" subjects.

"Like all fads or great thoughts there are elements that are worthwhile, and some that won't cut it. We need to choose the good parts, and not get carried along by the nonsense," says Avi Rappoport, BMUG's library mentor. "The 'paperless office' sounds terrific, but there's a reason why paper was invented and is still popular. Computers don't do research for you. They're only a tool. You still have to figure out what you need, and do it."

It seems clear that most of the pressure for early implementation of electronic libraries is economic. The plans are really attempts to save money under the veil of technological improvement. Unfortunately, it appears that computer information systems will require added budgetary support for network infrastructure, workstations, computer literacy, data conversion projects, and perhaps even for the student's own computers.

You can see how critical it is for students

Copyright © 1993 by David Morgenstern. All rights reserved worldwide.

to start developing computer and networking skills. Secondary schools need to start teaching computer skills, and give students the assignments that will push them to actually go to the nearest research library. Just buying a machine and letting it sit around, or using it merely for games, is a losing proposition—for your student and our society.

MAGNA CUM BMUG

Here's a little list of things to keep you and your Macintosh off double-secret probation:

- Which Mac should I buy? This is the question on students' and parents' minds at the beginning of the semester. It's also the most difficult to answer without knowing the size of your pocketbook, and the almost Brownian motion of Apple prices. There are excellent sale bundles of hardware and software offered at the beginning of the year at some schools. Macintosh prices have fallen so far that almost anything is a relative bargain.

PowerBooks have the advantage of being able to walk into the library or classroom for on-the-spot note taking. Take a close look at the Centris 610 and 650, since PowerPC upgrades will reportedly be available for these models next year, or whenever Apple gets around to it. The Centris 660av "Tempest" model looks very hot, with built-in digital signal processing.

- When buying their computers, future users frequently forget to set aside sufficient bucks for software. Every computer user needs a word processor, but students may also find outliners, special dictionaries, and grammatical reference programs beneficial. Absolutely everyone in school can put bibliographic software to good use.

EndNote Plus by Niles and Associates almost makes writing a term paper fun. EndNote is a powerful database that knows all about bibliographic references and styles. It automatically generates a correctly formatted bibliography and footnotes for your paper. EndNote also lets you enter the data we used to write on index cards straight into the program. It incorporates a powerful search engine that can speedily sort through thousands of references. The combination of a PowerBook and an EndNote database make a heavy research assignment a diet plate special.

> *The if pens, pencils, index cards, and typewriters were good enough...adage of our grandparents, parents, or elder siblings is coming face to face with the demands of the Information Age.*

Although most word processing packages come with a spelling checker and thesaurus, they are a byte anemic. Deneba's Spelling Coach Professional really gets the job done, with spelling, definitions, and a thesaurus. It can even be set to operate in your online access programs, improving your postings on the campus network.

- Don't forget some small but important additions to your educational computer setup. Desktop Macintosh models can use a security kit. The kits include tabs that lock into slots on the back of the Mac or monitor, a galvanized steel cable, and a padlock. The cable is looped through holes in the tabs, and then through holes in the desk, or other heavy object.

The HardTop dustcover by Basic Needs has the best chance of surviving the rigors of college-level parties. Unlike cloth covers, the HardTop is made from stiff ABS plastic. They even have versions for the old Mac SE that's going off to college, so that Dad can buy a newer flavor of Macintosh.

THAT EUDORABLE YOU

Telecommunication is essential for students. Almost all university libraries now have their catalogs on computers and hooked into the campus network. Without leaving the questionable comfort of the dormitory, you can find out that the book you need is already checked out. Fortunately, the library across town is just a network address away using Internet information searching programs.

I asked Phil Reese, long time BMUGer, and university computer support maven, which telecom program he liked best. Phil says:

"I have to put in a plug for good old Eudora, the freeware program by Steve Dorner, at Qualcomm Corp. This is probably the easiest-to-use and best supported electronic mail program available. It has a few gotchas, but even they can be worked out.

"Essentially, Eudora is a program written for use from a networked Mac, as is common at most universities and bigger businesses these days. It is flawless in this regard. It works as a Post Office Protocol 3 (POP3) client to a UNIX/VMS/IBM host.

"The problem, of course, is what do you do when you are at home? You still have to dig out your old terminal emulator, which you never really learned how to use! Recent versions of Eudora have addressed this problem by building in rudimentary serial access tools into the program.

"Essentially, what it does is log into a UNIX host, providing all the underpinnings necessary for the network commands that the host likes to use. Thus, the script language makes the connection to UNIX host, then turns control back over to the Eudora program itself, which then runs the same code as if on a Mac network. The mail transfer completes, and the program is smart enough to turn control back over to the scripts. Then they log you out and hang up the modem. Very sweet!

"Another cool feature is the way that it allows attachment of all types of Mac files transparently. It auto binhexes the files on the way out, and unbinhexes them on the way back in. For non-Eudora users all is not lost, because a UNIX user can receive the message, transfer it to their Mac, and unbinhex the file without problem. It could also be a PC with, say, an Excel file."

SHAREWARE SPOTLIGHT

Many new Macintosh models are coming with CD-ROM drives built-in. An excellent companion to that new drive is the BMUG PD-ROM vB3. More than two thousand files are new or updated from the last CD.

Other CD-ROM collections throw any old program on hand onto a disk. All the software on the BMUG PD-ROM has been tested on the entire range of Macs, from the Mac SE to the Quadra 800. B3 has an incredible collection of two hundred System 7 utilities, and thousands of color icons. If you're ever bored, you can while away the hours with 118MB of games!

The CD is available from the BMUG Office for $50 (please add $4 postage and handling).■

continued on page 242

TOP DATA MONTHLY SPECIALS

SYSTEM	M/B +CPU	BASIC SYS	BASIC SYS +40MB HDD +MGP card +14"MONO	BASIC SYS +40MB HDD +VGA card +Monitor	BASIC SYS +40MB HDD +SVGA card +Monitor	BASIC SYS +80MB HDD +SVGA card +Monitor	BASIC SYS +120MB HDD +SVGA card +Monitor	BASIC SYS +170MBHD +SVGA card +Monitor	BASIC SYS +200MBHD +SVGA card +Monitor	BASIC SYS +250MBHD +SVGA card +Monitor
486DX2-66C VLB	529	689	889	989	1,029	1,079	1,099	1,119	1,139	1,169
486DX-50C VLB	489	649	849	949	989	1,039	1,059	1,079	1,099	1,129
486DX-33C VLB	359	519	719	819	859	909	929	949	969	999
486DLC-40C VLB [illegible]	229	389	589	689	729	779	799	819	839	869
486DLC-33C VLB 87DLC33 Inc'd & Upgradable	189	349	549	649	689	739	759	779	799	829
486SX-33C VLB	206	366	566	666	706	756	776	796	816	846
486DX2-66C EISA	613	773	973	1,073	1,113	1,163	1,183	1,203	1,223	1,253
486DX-33C EISA	409	569	769	869	909	959	979	999	1,019	1,049
486DX2-66C ISA	519	679	879	979	1,019	1,069	1,089	1,109	1,129	1,159
486DX-50C ISA	479	639	839	939	979	1,029	1,049	1,069	1,089	1,119
486DX2-50C ISA	419	579	779	879	919	969	989	1,009	1,029	1,059
486DX-33C ISA	349	509	709	809	849	899	919	939	959	989
486SX-33C ISA	196	356	556	656	696	746	766	786	806	836
486SX-25C ISA	149	309	509	609	649	699	719	739	759	789
486DLC-40C ISA 87DLC40 Inc'd & Upgradable	219	379	579	679	719	769	789	809	829	859
486DLC-33C ISA [illegible]	179	339	539	639	679	729	749	769	789	819
486SLC-33C ISA	159	319	519	619	659	709	729	749	769	799
486SLC-25C ISA	139	299	499	599	639	689	709	729	749	779
386DX-40/64C ISA	113	273	473	573	613	663	683	703	723	753
386SX-40C ISA	79	239	439	539	579	629	649	669	689	719
386SX-33 ISA	69	229	429	529	569	619	639	659	679	709
386SX-25 ISA	59	219	419	519	559	609	629	649	669	699

BASIC SYSTEM: M/B & CPU, 1MB(512K for 386SX/486SLC) Memory, IDE Controller, 1.44MB FD, Enhance Case with Power Supply and Keyboard.

HARD DRIVES

40MB/80MB IDE	99/149
120MB IDE	169
170MB IDE	189
200MB IDE/SCSI	209/259
250MB IDE/SCSI	239/289
340MB IDE/SCSI	319/369
520MB IDE/SCSI	679/729
1GB SCSI2	1,039

PRINTERS

Panasonic KX-P2180	159
Panasonic KX-P1123	179
Panasonic KX-P1124i	293
Panasonic KX-P1624	363
Panasonic KX-P2123	215
Panasonic KX-P2624	319
Color Kit for Panasonic	69

MATH COPROCESSORS

387SX-25/33	59/69
387DX-33/40	69/79

MONITORS & VIDEO CARDS

14"SVGA .39 w/512K Card	279
14"SVGA .28 w/1M Card	319
14"SVGA .28 NI w/1M Card	349
14"SVGA .28 NI VESA 1M	429
15"SVGA .28 NI VESA 1M	529
Diamond Speed Star 24X	159
Diamond Stealth 24 w/1M	169
Diamond Stealth 24VLB w/1M	179
Orchid Fahranheit VRAM	179
Orchid Fahranheit VLB	189
ATI UltrPro VLB 2M VRAM	399
Genoa VLB w/1M	139
SVGA-256/512K/1MB	29/39/55
14" CTX 5468A .28 INT	259
14" CTX 5468 .28 NI	299
14" CTX 1460 .28 VESA	379
14" CTX 1461/1461LR	315/379
15" CTX 1560/1560LR	459/499
15" CTX 1561/1561LR	399/459

MISCELLANEOUS

Texel SCSI CD-ROM Int	399
Mitsumi CD-ROM Int	199
Sony CDROM 31/541	209/399
Sound Blaster Pro	159
Mini Tower Case w/230w	49
Desk Top Case w/230w	51
Med Tower Case w/230w	79
Full Tower Case w/250w	99
DOS 6.0	42
Fax Modem 96/24	59
Fax Modem 14.4/14.4	199
Modem 2400	39
Tape Backup 250MB	199
Tape Backup 120MB	149
16 Bit Ethernet Card	65
Microsoft Serial Mouse	59
3-Button Serial Mouse	10
Disk Holder 3.5/5.25	2/3
Mouse pad	2

ADAPTERS

IDE 4HD/2FD Cache(0K) VESA .3MS	199
IDE 2HD/2FD 2S1P1G VESA	49
IDE 2HD/2FD Cache(0K) ISA .3MS	99
IDE 2HD/2FD 2S1P1G	19
MFM 2HD/2FD	35

KEYBOARDS

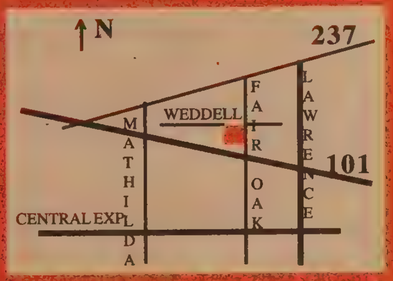
101 Enhanced Keyboard	20
Chicony 5181/5161	35/45

SCSI ADAPTERS

[illegible]	[illegible]
Adaptec 1542B SCSI [illegible] (ISA)	[illegible]
Adaptec 1742A SCSI w/Floppy [illegible]	[illegible]
Ultrastor 14F SCSI2 [illegible]	[illegible]
[illegible] SCSI-2 EISA	[illegible]
Ultrastor [illegible] SCSI VESA	[illegible]

TOP DATA

574 Weddell Dr. Suite 5
Sunnyvale, CA 94089
Tel: (408) 734-9386
Fax: (408) 734-9340



Mon - Fri: 9 - 6 Sat: 10 - 4

TERMS AND CONDITIONS

1. One year parts and labor warranty on systems.
2. 30 days money back guarantee.
3. Knowledgeable technical support engineers in service.
4. Custom-build each TOPDATA system to your need.
5. No return after 30 days.
6. Prices and availability subject to change w/o notice.
7. Shipping and handling charges are extra and non-refundable.
8. No responsible for typos.
9. Purchase orders are welcomed and subject to approval.

HD

COMPUTER

EDITOR'S CHOICE NO.1 BYTE JUNE 1993

JUNE 1993
BYTE
BEST VALUE
DOS CAD
SYSTEM

BEST VALUE CAD AND GRAPHICS

JUNE 1993
BYTE
BEST VALUE
WINDOWS
SYSTEM

BEST VALUE WINDOWS SYSTEM

JUNE 1993
BYTE
BEST VALUE
UNIX
SYSTEM

BEST VALUE UNIX SYSTEM

EDITORS & BUSINESS BUYERS AGREE!

HD IS YOUR SOLUTIONS SUPERSTORE!

BYTE'S June 1993 Best Low Cost CAD, WINDOWS, UNIX System...the HD VLB66

HD'S 486DX2/66 system won hands down for Best Low Cost CAD, WINDOWS and UNIX system. It beat out, Easterntech,Acma...... That's no surprise, considering it's solid performance, flexible expansion options and low price. Our high resolution 14" non interlaced display and Genoa WIndows VGA card featuring the Cirrus Logic chip set means faster screen redraws and more efficient work for you. All this plus one year parts & lifetime labor, lifetime tech support and optional on-site service are just a few reasons why HD's 486DX2/66 is the system for the '90s and beyond!

HD VLB 66
486DX2-66 VESA Local Bus

- ZIF Socket for Upgrade to Intel 24-T
- 8MB RAM, 256K Cache
- 1.2MB Floppy Disk Drive
- 1.44MB Floppy Disk Drive
- 340MB SCSI Hard Disk
- ULTRASTOR 34F VL-B SCSI II controller
- 2 Serial, 1 parallel, 1 game port
- Full-tower case w /250 w Power Supply
- 14" SVGA Non-interlaced monitor 0.28 dpi
- Cirrus Logic VLB Accelerator card w/1MB
  (Expandable to 2 MB)
- 101 Key Enhanced Keyboard

$ 2400

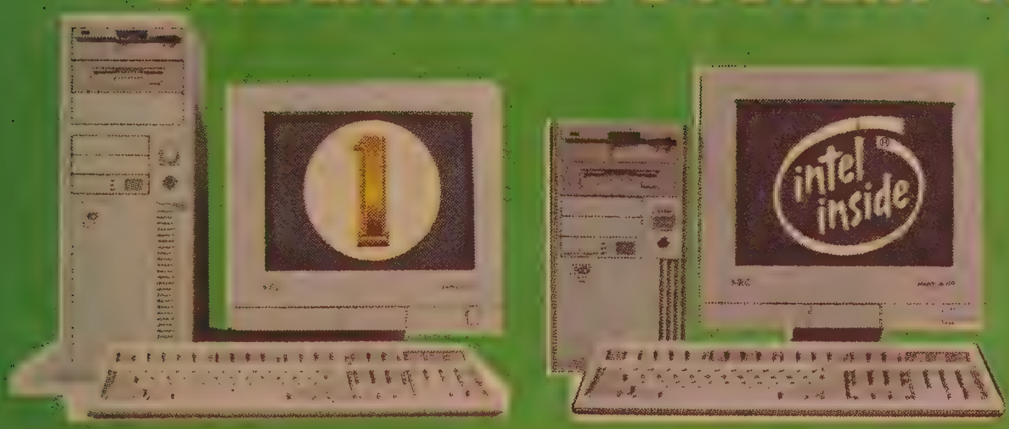
HD
intel inside ®

MICROSOFT®
WINDOWS™
COMPATIBLE

HD

COMPUTER

UNBEATABLE SYSTEM VALUES



Free On-Site Service (Bay Area only)

Free Software Option:
1. MS DOS 6.0 (OEM) (with system only)
2. MS WINDOWS 3.1 (OEM) (with system only)
3. PFS:Windows Works
4. PFS:Publisher
5. PFS:Business Plan
6. PFS:First Choice/DOS

•One for each system.

VESA LOCAL BUS VL-B 486SX

- ZIF Socket for Easy Upgrade to Intel 486 & P24-T
- 128K Cache Expandable to 256KB
- 4MB RAM Expandable to 32MB
- 1.2MB and 1.44MB Floppy Disk Drive
- **130MB IDE Hard Disk**
- IDE 2H/2F Controller
- 2 Serial 1 Parallel 1 Game Port
- 101-key enhanced keyboard, MITSUMI
- Mini-tower case w/ 200W power supply
- 14" SVGA Non-interlaced monitor 0.28 dpi
- **VL-B Graphic Accelerator** w/1MB (Expandable to 2MB) Max 1280x1024 16.7 Million Colors. Driver Support Windows 3.1 AutoCAD R.12 OS/2 V.2.0
- 2 button Hi-Re serial Mouse

Free Software Option

486SX-25MHz $1245
486SX-33MHz $1295

VESA LOCAL BUS BEST BUY

- ZIF Socket for Easy Upgrade to Intel 486 & P24-T
- 128K Cache Expandable to 256KB
- 4MB RAM Expandable to 32MB
- 1.2MB and 1.44MB Floppy Disk Drive
- **245MB IDE Hard Disk, MAXTOR**
- IDE 2H/2F Controller
- 2 Serial 1 Parallel 1 Game Port
- 101-key enhanced keyboard, MITSUMI
- Mini-tower case w/ 200W power supply
- 14" SVGA Non-interlaced monitor .28 dpi
- **VL-B Graphic Accelerator** w/1MB (Expandable to 2MB) Max 1280x1024 16.7 Million Colors. Driver Support Windows 3.1 AutoCAD R.12 OS/2 V.2.0
- 2 button Hi-Re serial Mouse

Free Software Option

486DX-33 [illegible] **486DX2-66** [illegible]
486DX2-50 $1545

VESA LOCAL BUS PROFESSIONAL

- ZIF Socket for Easy Upgrade to Intel 486 & P24-T
- 128K Cache Expandable to 256KB
- **8MB RAM Expandable to 32MB**
- 1.2MB and 1.44MB Floppy Disk Drive
- **340MB IDE Hard Disk**
- **32 Bit VLB IDE Controller**
- 2 Serial 1 Parallel 1 Game Port
- 124-key Focus 9000 keyboard
- Mini-tower case w/ 200W power supply
- **15"** Viewsonic 15 SVGA NI monitor (1280 X 1024 0.28 dpi)
- **VL-B Graphic Accelerator** w/1MB (Expandable to 2MB) Max 1280x1024 16.7 Million Colors. Driver Support Windows 3.1 AutoCAD R.12 OS/2 V.2.0
- 2 button Hi-Re serial Mouse

Free Software Option

486DX-33 $2095 **486DX2-66** $2295
486DX2-50 $2195

> **" brand name components, plentiful room for expansion, ample setup options, and generous service policies are the hallmarks of this machine"**
>
> **PC Sources**

> **" definitely not another 'run of the mill' machine" "more experienced user searching for top performance might want to consider HD Computer..."**
>
> COMPUTER SHOPPER
>
> **Computer Shopper**

System Below $1,000 HD 386

- 4MB RAM Expandable to 32MB
- 1.44MB Floppy Disk Drive
- **130MB Hard Disk**
- **1.1 Interleace 2 FL/2HD Disk Controller**
- 2 Serial 1 Parallel 1 Game Port
- 101-key enhanced keyboard
- Mini-tower case w/ 200W power supply
- **14" SVGA Color Monitor 0.39dpi**
- 16 Bit SVGA CARD/1MB
- **2 button Hi-Re serial Mouse**

386SX-33MHz [illegible]
386DX-33MHz w/64K Cache [illegible]
386DX-40MHz w/64K Cache [illegible]

Windows Accelerator HD486-ISA

- 64K Cache Expandable to 256KB
- 4MB RAM Expandable to 32MB
- 1.2MB and 1.44MB Floppy Disk Drive
- **170MB IDE Hard Disk**
- 1:1 Interleave 2 FL/2HD Disk Controller
- 2 Serial 1 Parallel 1 Game Port
- 101-key enhanced keyboard, MITSUMI
- Mini-Tower Case w/ 200W Power supply
- 14" SVGA Non-Interlaced Monitor .28 dpi
- **Windows Accelerator Card w/ 1MB**
- **2 button Hi-Re serial Mouse**
- **Free Software Option**

DX2-66 [illegible] **DX-33** $1345
DX-50 [illegible] **SX-33** $1295
DX2-50 [illegible] **SX-25** $1195

EISA VESA

- **Nice Main Board Made in USA**
- **ZIF Socket for Upg. to any Intel 486& P24-T**
- 256K Cache Expandable to 1MB
- 4MB RAM Expandable to 128MB
- 1.2MB and 1.44 MB Floppy Disk Drive
- **240 MB SCSI Hard Disk,QUANTUM**
- **32 BIT EISA SCSI Controller**
- 2 Serial 1 Parallel 1 Game Port
- 101-key Enhanced Keyboard,KEYTRONIC
- Mid Tower Case w/ 230W Power Supply
- **View sonic V6E Non-interlaced monitor, 28 dpi**
- **ET-4000/W32 VL-B Graphic Accelerator w/1MB** Max 1280 x1024 16.7 million colors Drivers Support Windows 3.1 Auto CAD R.12,OS/2V.2.0
- **2 button Hi-Re serial Mouse**
- **Free Software Option**

DX2-66 [illegible] **DX2-50** [illegible]
DX-50 $2195 **DX-33** [illegible]

Top Performance HD EISA

- **Nice Main Board Made in USA**
- 256K Cache Expandable to1MB
- 1.2MB and 1.44MB Floppy Disk Drive
- **525MB SCSI Hard Disk, QUANTUM**
- **32 Bit EISA SCSI Controller**
- 2 Serial 1 Parallel 1 Game Port
- Full-tower case w/ 250W power supply
- **View sonic V6E** Non-interlaced monitor .28 dpi
- Orchid Pro Designer IIs 32bit EISA SVGA/1MB
- **2 button Hi-Re serial Mouse**
- **Free Software Option**

486DX2-66 [illegible] **486DX50** $3095
486DX2-50 [illegible] **486DX33** $2895

Sales Hours: 7:30AM - 6:30PM Weekdays, 10AM - 4PM Saturdays (Pacific Time)

Sunnyvale Tel: (408) 720-0493 *El Cerrito Tel: (510) 528-0753* *Sacramento Tel: (916) 483-4278*

1196 Kern Ave., Sunnyvale, CA 94086 ***10005 San Pablo Ave., El Cerrito, CA 94530*** ***2530 Watt Ave., Sacramento, CA 95821***

Terms and conditions for HD Systems only: • 30 day money back guarantee, no restocking fee • 1 Year parts life time tech support warranty • Toll free technical support • major credit cards accepted • No surcharge for VISA, MC,AE, and Discover cards • Quality PO's accepted from Academic., Corporate and Public Institutions • APO's welcome • Shipping charge not refundable • Return shippments must be insured, prepaid and bear an RMA# on the shipping label • Price does not include shipping • Price and configurations are subject to change without notice • Allow 14 days to process for purchase refund. • Not Responsible for typographical errors.

HD COMPUTER

WHEN PURCHASE ANY MULTIMEDIA, YOU CAN GET 10% OFF FOR ALL CD -TITLES

UNBEATABLE CD-ROM TITLES PRICE

BUS001	American Business Phone Book	$24.99
BUS002	Business and Economic Atlas	$29.99
BUS003	Guinness Disk of Records, MPC	$24.99
BUS004	Jets and Props	$24.99
BUS005	Lotus 123 V3.1	$99.99
BUS006	Marketing Master 1992	$29.99
BUS007	Media Clips - 4 pack	$64.99
BUS008	Microsoft Works MPC	$64.99
BUS009	Ocean Digital imagery Vol. 1	$34.99
BUS010	Publish It 2.0 DOS	$34.99
EDU001	Animals V1.0 Software Toolworks	$29.99
EDU002	Britannica Family Choice	$29.99
EDU003	Desert Storm MPC	$24.99
EDU004	Dictionary of Living World	$24.95
EDU005	Family Education Collection	$29.99
EDU006	Mixed-up Mother Goose MPC, DOS	$24.99
EDU007	PC Graphic & Sound Demo	$23.99
EDU008	Playing w/ Language - English	$34.99
EDU009	Playing w/ Language - French	$34.99
EDU010	Playing w/ Language - German	$34 99
EDU011	Playing w/ Language - Japanese	$34.99
EDU012	Playing w/ Language - Spanish	$34.99
EDU013	Presidents	$99.99
EDU014	Shakespeare	$34.99
EDU015	Time Table of History	$24.95
EDU016	US History	$39.99
EDU017	USA Wars: Civil War	$44.99
EDU018	USA Wars: Korea	$44.99
EDU019	USA Wars: Vietnam (DOS)	$44.99
EDU020	USA Wars: World War II	$44.99
EDU021	Whale of Tale	$79.99
REF001	Auther's Teacher Trouble	$34.99
REF002	Comptons MPC Encyclopedia	$99.99
REF003	Family Doctor	$34.99
REF004	Holy Bible	$24.99
REF005	MacMillans Children Dictionary	$39.99
REF006	Mayo Clinic Family Heath Book	$34.99
REF007	Reference Library	$34.99
REF008	Toolworks Encyclopedia	$69.99
REF009	Vital Signs MPC	$89.99
REF010	PC-SIG 10th Edition	$23.99
REF011	PC-SIG 11th Edition	$23.99
REF012	Mavis Teaches Typing MPC	$29.99
REF013	Microsoft Bookshelf	$69.99
REF014	Microsoft Works mpc	$69.99
ENT001	Amanda Stories	$44.99
ENT002	Adventure of Willy Beamish	
ENT003	Annable's Dreams Egypt	$69.99
ENT004	Annable's Dreams MPC	$69.99
ENT005	A Survey of Western Art MPC	$39.99
ENT006	Authorware Star for Windows	$54.99
ENT007	Battle Chess Enhanced	$29.99
ENT008	Beauty and Beast	$24.99
ENT009	Carmen San Diego	$29.99
ENT010	CD Game Pack II	$29.99
ENT011	CD Story time DOS	$24.99
ENT012	Chess Master 3000 MPC	$24.99
ENT013	CIA World Fact Book	$24.99
ENT014	Composer Quest MPC	$59.99
ENT015	Dinosaur Adventure	$34.99
ENT016	Jones in Fast Lane MPC	$24.99
ENT017	King's Quest V	$29.99
ENT018	Library of Futured 1st	$54.99
ENT019	LOOM from Lucas MPC	$25.99
ENT020	Macromedia Action for Windows	$33.99
ENT022	MIDI Music Shop	$21.99
ENT023	Money Island	$29.99
ENT024	Peter and the Wolf	$24.99
ENT025	Renaissance Masters I MPC	$34.99
ENT026	Renaissance Masters II MPC	$34.99
ENT027	Secret Weapons of LuftWaffa	$34.99
ENT028	Sherlock Holmes	$29.99
ENT029	So Much Shareware I	$24.99
ENT030	So Much Shareware II	$24.99
ENT031	Sound Library	$29.99
ENT032	Space Adventure	$34.99
ENT033	Space Quest IV: Roger Wilco	$29.99
ENT034	Sport's Best	$24.99
ENT035	Stellar 7 DOS	$24.99
ENT036	Tempra Access Photo CD	$29.99
ENT037	Time Almanac 1991	$29.99
ENT038	Total Baseball	$39.99
ENT039	Wild Places	$24.99
ENT040	Wing Command & Ultima VI DOS	$29.99
ENT 041	Winzard MPC	$24.99
TRV001	Great Cities - Vol 1	$24.95
TRV002	Great Cities - Vol 2	$24.95
TRV003	National Geographic Mammals	$34.99
TRV004	US Atlas/World Atlas	$29.99
TRV005	US Atlas & Auto Map	$39.99
TRV006	World Atlas MPC	$29.99
TRV007	World View	$24.99

AND MUCH MORE...

HD486 ISA Multimedia

- 64K Cache Expandable to 256KB
- 4MB RAM Expandable to 32MB
- 1.44MB Floppy Disk Drive
- **CD ROM Drive**
- **130MB IDE Hard Disk**
- 1:1 Interleave 2 FL/2HD Disk Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 101-key Enhanced Keyboard, MITSUMI
- Mini-Tower case w/ 200W Power supply
- 14" SVGA Non-Interlaced Monitor 0.28DPI
- **Window Accelerator Card w/1MB**
- Sound Card
- **2 Speakers & Microphone**
- **Sound Library CD-TITLE**
- **2 Button Hi-Res Serial Mouse**

486DX-33 $1595 **486DX2-50** $1645
486DX-50 $1695 **486DX2-66** $1795

HD486 VESA Multimedia

- 128K Cache Expandable to 256KB
- 4MB RAM Expandable to 32MB
- **1.44MB Floppy Disk Drive**
- **CD ROM Drive**
- **210MB IDE Hard Disk**
- 1:1 Interleave 2 FL/2HD Disk Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 101-key Enhanced Keyboard, MITSUMI
- Mini-Tower case w/ 200W Power supply
- 14" SVGA Non-Interlaced 0.28DPI
- 32 BIT-VLB Graphic Accelerator
- Sound Card
- **2 Speakers & Microphone**
- **Sound Library CD-TITLE**
- **2 Button Hi-Res Serial Mouse**

486DX-33 $1695 **486DX2-50** $1745
486DX2-66 $1895

HD486 EISA VESA Multimedia

- 256K Cache Expandable to 512KB
- 8MB RAM Expandable to 32MB
- 1.44MB Floppy Disk Drive
- **TOSHIBA CD ROM Drive SCSI**
- **245MB SCSI Hard Disk, MAXTOR**
- 32Bit EISA SCSI Controller
- 2 Serial, 1 Parallel, 1 Game Port
- 101-key Enhanced Keyboard, MITSUMI
- Mid-Tower case w/ 230W Power supply
- 14" VIEWSONIC 6E SVGA NI 0.28 DPI
- ET-4000/w32 VLB w/1MB
- **Pro Audio Spectrum 16**
- **Toolworks Encyclopedia**
- **CARMEN San Diego**
- **2 Button Hi-Res Serial Mouse**

486DX-33 $2845 **386DX2-50** $2945
486DX2-66 $3045

CD-ROM

MITSUMI (INT) W/16bit card MPC/ 350MS		$195
TOSHIBA XM-3401B/SCSI	(INT) (EXT)	$465 $575
SONY 31A/controller card		$190
SONY 541 SCSI	(INT)	$385
TEXEL/SCSI MD-3024/265MS w/caddy	(INT)	$355

SOUND CARD

SOUND BLASTER PRO	$169
SOUND BLASTER 16 ASP	$265
PRO Audio Spectrum 16	$169
SOUND BLASTER compatible/ microphone, speaker	$89
TERMINATOR for EXT CD ROM	$15

UNBEATABLE MULTIMEDIA PACKAGE

Affordable Package for your Family

Panasonic 561(INT) AT BUS
- Sound Blaster PRO
- M.S bookshelf MPC
- M.S works
- Kings quest
- Mother goose
- Sound library

$469

Affordable Package for your Family

MITSUMI MPC CD ROM
(INT)AT BUS 350MS 150 KB/SEC
Photo CD Compatible
- 16 Bit CD quality sound card
- Toolworks encyclopedia
- US ATLAS
- CARMEN SAN DIEGO
- Sound library

$489

Top Performance Package for Windows NT Users

TOSHIBA
XM-3401B (INT)SCSI CD ROM
- PRO Audio Spectrum 16
- Compton's MPC encyclopedia
- M.S. bookshelf MPC
- M.S. works MPC
- CD came pack II

$799

Sales Hours: 7:30AM - 6:30PM Weekdays, 10AM - 4PM Saturdays (Pacific Time)

Sunnyvale
: (408)720-9493 Fax : (408)720-1967

El Cerrito
Tel : (510)528-0753 Fax : (510)528-0757

Sacramento
Tel : (916)483-4378 Fax : (916)483-4826

HD
COMPUTER

Twinhead Notebook

Twinhead Powerful Mono Notebook

- INTEL 486DX CPU
- 4MB RAM Expandable to 20MB
- 1.44MB Built-In Floppy Disk Drive
- One Serial Port, One Keyboard/Mouse Port
- 84 Keys Keyboard with 12 Fonction Keys
- MONOCHROME, 64 Shade Sidelit Display
- MS DOS 6.0, MS WINDOWS 3.1
- Physical Dimensions 8.5" x 11" x 1.8"
- Weight with Battery 5.8 LBS

486DX-33 with 130MB Hard Disk Only $2059
with 200MB Hard Disk Only $2199
486DX2-66 with 200MB Hard Disk Only $2659

Twinhead Brilliant Color Notebook

- INTEL 486DX CPU
- 4MB RAM Expandable to 20MB
- 1.44MB Built-In Floppy Disk Drive
- One Serial Port, One Keyboard/Mouse Port
- 84 Keys Keyboard with 12 Fonction Keys
- 256 Color Display, Active Color Matrix
- Video Card w/512K RAM
- MS DOS 6.0, MS WINDOWS 3.1
- Physical Dimensions 8.5" x 11" x 1.8"
- Weight with Battery 6.3 LBS

486DX-33 with 130MB Hard Disk Only [illegible]
with 200MB Hard Disk Only [illegible]
486DX2-66 with 200MB Hard Disk Only [illegible]

Twinhead 4 Pounds Powerful Subnote

- 2MB RAM Expandable to 8MB
- 1.44MB External Floppy Disk Drive
- 85MB IDE Hard Disk
- One Serial / Parallel Port
- 79 Keys Keyboard
- 64 Gray Shades VGA Display
- PCMCIA Slot
- Built-In 2-Button Trackball
- MS DOS 6.0, MS WINDOWS 3.1
- Physical Dimensions 7.1" x 10" x 1.6"
- Weight with Battery 4LBS

486SLC33 Only [illegible]

AMI	
Enterprise III EISA/VL-B 486DX2-66/256K/CPU	$1450
Enterprise III EISA/VL-B 486DX-50/256K/CPU	$1300
Enterprise III EISA/VL-B 486DX-33/256K/CPU	$1150
Super Voyager 486DX2-66/VL-B/256K/CPU	$1200
Super Voyager 486DX33/VL-B/256K/CPU	$995
MICRONICS	
486DX-33/256K/CPU ISA	$690
486DX-50/256K/CPU ISA	$990
486DX2-66/256K/CPU ISA	Call
NX-30 486DX-33/256K/CPU VL-B	$850
NX-30 486DX2-50/256K/CPU VL-B	$950
NX-30 486DX2-66/256K/CPU VL-B	$1190
E-3 486DX2-66/256K/CPU EISA	$1450
NICE (Made in U.S.A)	
ZIF 486DX/256K VL-B	$270
ZIF EISA VESA VL-B 486DX/256K	$300
Super EISA VESA VL-B 486DX/256K	$450
EISA 486DX/256K/8 EISA slots	$400
ORCHID	
486DX33/DX2 50/DX2 66/256K VL-B	$350
[illegible]	[illegible]

Hard Drives	
Quantum ELS127A 127MB 17MS	$195
Quantum ELS170A 170 MB 17MS	$225
Quantum LPS 240A 240MB IDE	$305
Quantum LPS 240S 240MB SCSI	$305
Quantum LPS 525MB SCSI	$685
Conner CP 30104H 120MB 19MS	$185
Conner CP30174E 170MB 17MS	$225
Conner CP30254E 250MB 14MS	$305
Conner CP 340MB IDE	$365
Conner CP 540MB IDE	$695
Conner CP 540MB SCSI	$695
Fujitsu M2624 520MB IDE 14MS	$695
Fujitsu M2624 520MB SCSI 11MS	$695
Western Digital AC2250 250MB IDE	$285
Western Digital AC2340 340MB IDE	$385
[illegible]	[illegible]

[illegible]	[illegible]
AMI Fast View with 2MB Weitek P9000	call
AMI Fast View EISA VGA Graphic with 1MB	$295
ATI Graphic Ultra Plus/1MB and Mouse	$375
ATI Graphic Ultra Pro/2MB VRAM	$525
ATI Graphic Ultra Pro VL-B/2MB VRAM	$440
ATI Graphic Ultra Pro EISA/ 2MB VRAM	$450
Diamond Speed Star 24X/1MB Hi-Color	$175
Diamond Stealth 24/1MB	$185
Diamond Stealth 24 VL-B/1MB	$210
Diamond Stealth Pro VL-B/2MB	$395
Diamond Viper VL-B/2MB	$475
Orchid Fahrenheit 1280/1MB	$165
Orchid Fahrenheit 24-bit /1MB	$175
Orchid Pro Designer IIs/1MB	$135
Orchid Pro Designer IIs EISA/1MB	$175
Orchid Fahrenheit VL-B/1MB	$210
Orchid P9000/3MB	$475
Cirrus Logic VL-B Graphic Accelerator/1MB	$135
Cirrus Logic Vl-B Graphic Accelerator/2MB	$165

ET-4000/w32 Graphic Accelerator/1MB	$175
Windows Accelerator Card/1MB	$85
16-bit SVGA Card/1MB	$80
16-bit SVGA card/512K	$65
16-bit SVGA card/256K	$50
M.G.P. card	$20
Zoltrix 2400 Modem	$45
Zoltrix 9600/2400 Fax Modem	$75
Zoltrix 9600/2400 Fax Modem for Windows	$95
Zoltrix 14400/14400 Fax Modem	$195
Zoltrix 14400/14400 Fax Modem for Windows	$215
Intel Satisfaction 200 96/24 Fax Modem	$315
Intel Satisfaction 400 96/24 Fax modem	$415
14" VGA Mono Monitor	$120
14" VGA Monitor .39 dpi (1024x768)	$225
14' SVGA Monitor .28 dpi (1024x768)	$275
14" SVGA non-interlaced monitor .28 (1024x768)	$295
MAG	
MX15F 15" Flat 1280x1024 .28 NI	$595
MX17F 17" Flat 1280x1024 .28 NI	call
Viewsonic 5E 14" 1024x768.28 NI	$415
Viewsonic 6E 14" 1024x768.28 NI	$335
[illegible]	[illegible]
SONY	
1430S 14" 1024x768.25 NI	$645
1604S 17" 1024x768.25 NI	call
2036S 20" 1280x1024.30 NI	call
NEC	
3 FGE 15" 1024x768.28	call
4FGE 15" Flat 1024x768.28 NI	call
5FG 17" Flat 1280x1024.28 NI	call
6FG 21"Flat 1280x1024.28	call

TERMS AND CONDITIONS FOR PARTS ONLY:

• 30 DAY MONEY BACK GUARANTEE • 1 YEAR PARTS WARRANTY • MAJOR CREDIT CARDS ACCEPTED • NO SURCHARGE FOR VISA, MC, AE, AND DISCOVER CARDS • QUALITY PO'S ACCEPTED FROM ACADEMIC., CORPORATE AND PUBLIC INSTITUTIONS • APO'S WELCOME • SHIPPING CHARGE NOT REFUNDABLE • RETURN SHIPPMENTS MUST BE INSURED, PREPAID AND BEAR AN RMA# ON THE SHIPPING LABEl • PRICE DO NOT INCLUDE SHIPPING • PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE • COMPONENT WARRANTIES OFFERS AND CLAIMS ARE HANDLED BY THE MANUFACTURER • COMPONENTS COMPATIBILITY IS NOT GUARANTEED • NO RETURNS ON USED ITEMS • ALL OPEND RETURES ARE SUBJECT TO 15% RESTOCKING FEE • NO EXCHANGES OR REFUNDS ON CD TITLES. DAMAGED CD'S WILL BE REPLACED WITH THE SAME TITLE ONLY...• ALLOW 14 DAYS TO PROCESS FOR PURCHASE REFUND. • WE ARE NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS.

VISA DISCOVER

SALES HOURS: 7:30AM - 6:30PM WEEKDAYS, 10AM - 6PM SATURDAYS (PACIFIC TIME)

SUNNYVALE TEL: (408) 720-0493
1196 KERN AVE., SUNNYVALE, CA 94086

EL CERRITO TEL: (510) 528-0753
10005 SAN PABLO AVE., EL CERRITO, CA 94530

SACRAMENTO TEL: (916) 483-4278
2530 WATT AVE., SACRAMENTO, CA 95821

Great Service Since 1984

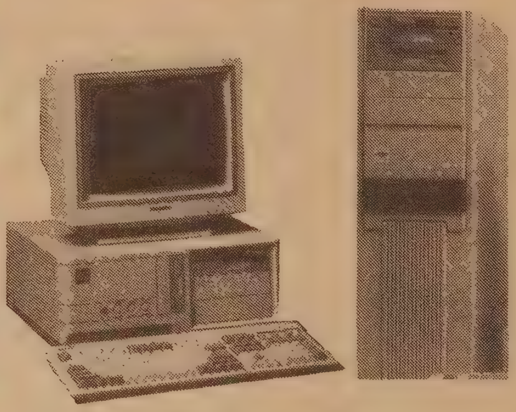
5 Year Labor Warranty 1 Year Parts

FCC CLASS B APPROVED SYSTEMS

MODEL	BASIC SYS +80MB HDD +MPG CARD + 14" MONO MONITOR	BASIC SYS W/1.2&1.44 FDD +120MB HDD +SVGA CARD +SVGA MON	BASIC SYS w/1.2 & 1.44 FDD +200MB HDD +SVGA CARD &SVGA MON
486DX2-66 VLB w/128K	$1002	$1227	$1274
486DX-50 VLB w/128K	942	1167	1214
486DX-33 VLB w/128K	798	1023	1070
486DX2-66 EISA/VLB W/256K	1118	1343	1390
486-50 EISA/VLB W/256K	1048	1273	1320
486-33 EISA/VLB W/256K	904	1129	1176
486DX2-66 ISA W/128K	994	1219	1266
486-50 ISA W/128K	926	1151	1198
486SLC2-50 IBM MB W/64K	754	979	1026
486-33 ISA W/128K	780	1005	1052
486SX-25 W/128K	590	815	862
386-40 W/128K	553	778	828
386SX-33	504	729	776
286-20	483	708	755

LOOK FOR QUALITY

Custom Configuration Available!



BASIC SYSTEMS INCLUDE

- Motherboard & CPU
- 1MB RAM
- 1.2 or 1.44 Floppy Drive
- 1:1 2HD/2FD Controller with 2 Serial, 1 Parallel, 1 Game Ports
- Internal Clock/Calendar
- Baby Case & Power Supply
- 101 Enhanced Keyboard

PENTIUM UPGRADABLE SYSTEMS AVAILABLE!

SYSTEM UPGRADES

VIDEO CARDS & MONITORS

ATI Ultra Pro VLB w/2MB	$326
ATI Ultra Pro w/2MB	322
ATI Ultra Plus w/2MB	246
ATI Ultra w/1MB w/Mouse	166
DIAMOND Viper VLB w/2MB	380
DIAMOND Speed Star Pro VLB w/1MB	116
DIAMOND Speed Star 24X w/HC	150
DIAMOND Stealth 24 w/1MB (ISA/VLB)	156
ORCHID ProDesigner IIS (EISA) w /1MB Hi-Color	155
ORCHID P9000 VLB w/3MB	350
ORCHID Fahrenheit VLB w/1MB	146
ORCHID Fahrenheit 1280 Plus w/1MB	138
TSENG Lab VGA w/1MB	73
Cirrus Logic w/1MB Windows Accelerator	59
Cirrus Logic VLB w/1MB	94
NEC 3FGE /4FGE 15" 1024x768 .28	585/685
NEC 5FGE 17" 1024x768 .28	1080
SONY 1430/1730	565/965
VIEWSONIC 4E/8E	265/290
VIEWSONIC 5+/7	455/870
VIEWSONIC 15/17	495/1050
VIEWSONIC 20/21	1675/1965

CONTROLLER

IDE 2FD/2HD	$11
IDE 2FD/2HD with 2S/1P/1G	13
Ultrastor SCSI 14F (ISA)	195
Ultrastor SCSI 24F (EISA)	355
Adaptec SCSI 1542 CK w/Kit (ISA)	234
Adaptec SCSI 1742 AK (EISA)	382
VLB IDE Controller 2FD/2HD with 2S/1P/1G	43

HARD DRIVES

80MB 18ms IDE	$152
120MB 16ms IDE	160
170MB 16ms IDE	178
200MB 16ms IDE	198
250MB 14ms IDE	228
340MB 15ms IDE	292
540MB 12ms IDE/SCSI	588/638

CASES

Tower Case full size, 6 drives, 285wps	$105
Tower Case medium size, 6 drives, 230wps	80
Tower Case mini size, 5 drive, 230wps	52

MISCELLANEOUS

AT I/O (2S/1P/1G)	$11
Serial Card/ Parallel Card/Game Card	11
Fax Modem (9600 Fax, 2400 Modem)	43
Fax Modem (14,400 Fax, 14,400 Modem)	135
2400 Int. Modem	26
Serial Mouse	11
Power Center	14
Power Strip	6
Colorado Backup 120/250MB	142/177
16-Bit Ethernet Card 10 Base-T/COAX	56
SIMM/CPU/SRAM/DRAM	LOWEST
Math-Co 387 DX-33/40	60/63
Math-Co 387 SX-25/33	55/59

MULTI-MEDIA SPECIALIST

MULTI-MEDIA UPGRADE KIT "Super Entertainment"

Includes:
- Mitsumi CD-ROM
- Pro Audio Thunder Card
- FREE CD with 7 Software titles:

ONLY $419

-Tempra Access (Photo CD)
-Microsoft Windows
-Microsoft Bookshelf
-Microsoft Works
-Mother Goose
-King Quest V
-Sound Library

BEST SELLING CD TITLES

Animals v1.0	$19
Arthur's Teacher Trouble	25
Battle Chess	18
Beauty and the Beast	17
Carmen San Diego	23
Compton's Encylopedia	56
Dinosaur Adventure	25
Family Choice /Britannica	21
Family Doctor	21
King Quest V	18
Loom	18
MacMillan Dictionary for Children	32
Mixed up Mother Goose	21
Secret Weapons of Luftwaffe	18
Sherlock Holmes - Cons. Detective	18
Sleeping Beauty	20
Space Adventure	25
So Much Shareware I, II, III	13,17,21
Wing Commander & Ultima VI	24
World Altas	17

CD-ROM DRIVES

Mitsumi LU005 w/Int	$172
Panasonic 522/523 w/Int	186
Sony 31A w/Int	192
Texel DM3024N SCSI	356
Teac CD-50 SCSI	332
Toshiba 3401B SCSI	428

SOUND CARDS

Sound Blaster Pro Deluxe	$118
Sound Blaster 16 ASP	198
Pro Audio Thunder Media Spectrum 16	138
ATI Sound Card	88
Sound Galaxy NX Pro Extra w/Speakers	118
Sound Galaxy NX Pro 16Bit w/Microphone & Headphone	158

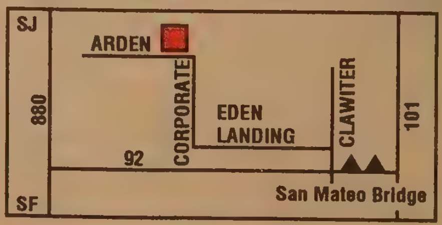
Government, Corporate, University, & VAR Inquiries and PO's Welcome

Prices subject to change without notice. Not responsible for typographical errors.

MCTechnology

3518 Arden Road
Hayward, CA 94545

(510) 670-0636
FAX (510) 670-0790
Hours M-F 9-6 SAT 10-4
Pacific Time



Parsons' Bible Software: A Godsend For Students

Affordable Software For Serious Scholarship

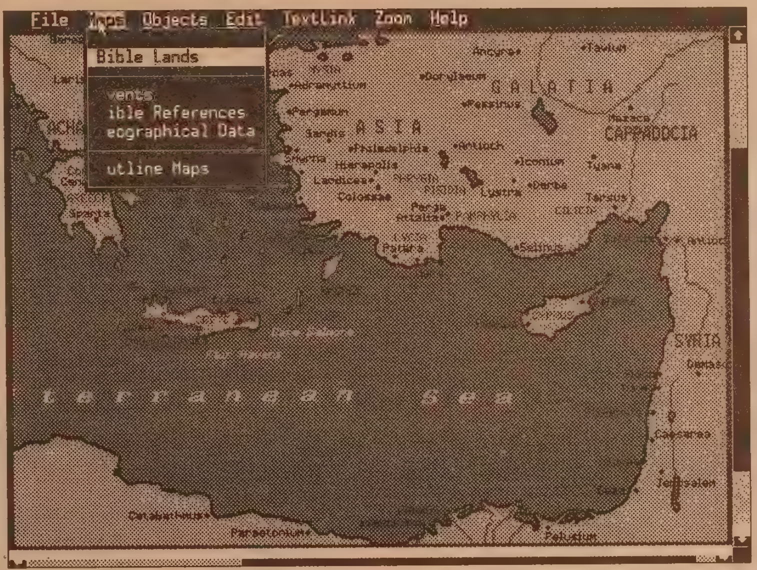
BY BIRRELL WALSH

Are there bears in the Bible?

The question came up while some friends were over for dinner. Because we had a copy of QuickVerse for Windows loaded on my computer, we were able to find the verse (2 Kings 2:24) in which two she-bears disciplined children for the prophet Elisha, and eleven other verses in which bears were mentioned.

Until I got a copy of Parsons Technology's QuickVerse, I had no idea how many uses there were for Bible software. QuickVerse allows instant access to Bible verses. When you open QuickVerse, you can choose which of several versions of the Bible you want to use. Then you can have the software search for the word or phrase you want to find. And Parsons' pricing—$59 for QuickVerse for Windows—proves the age of miracles is not over.

Bible-search software is useful to those whose religions are based in Biblical history—all flavors of Christians and Jews and Muslims. It is also a gateway to background culture for all of us, Jains and agnostics alike. Anyone who intends to do serious literary research in English needs to know a lot about the Bible. Anyone who wants to understand our culture or do anthropology on us needs to know the Bible. People who deal with Middle Eastern politics need to know the Bible. Esotericists need to know the Bible. Historians need to know the Bible. Linguists of English, Hebrew, and Greek need to know the Bible. Anyone who wants to write powerful English needs to know the Bible. And if you are not any of these people, perhaps you know someone who is.



COMPUTERIZED BIBLE SEARCH

With QuickVerse, you can search for words or phrases in any book, one Testament, or the Bible as a whole. You can use wildcards or do Boolean searches to find combinations of words—to find a verse in which both "Mercy" and "Kindness" occur in the King James Version, I entered "& Mercy Kindness." QuickVerse looked through the Bible and told me that it had found both words in 1 Kings 3:6, Isaiah 54:8 and Isaiah 54:10.

The search list offers the option of showing the found verses in the search box itself. By selecting a verse number, the user can view the full text of the verse in a larger window. You can choose to lock the windows together so each open version of the Bible shows the same verses.

There are many English Bibles. The great version in our culture is certainly the King James from the time of Shakespeare. But changes in the English language have rendered some of the words in the KJV misleading. There has also been a lot of progress in what we know about ancient languages since 1611.

So there have been revisions of the Bible, and revisions of those revisions. Parsons offers QuickVerse for The King James Version, the New King James, The Revised Standard (RSV), the New Revised Standard, The New Century, The Living Bible, and the New International Version.

For the advanced user, there are two additional versions—or perhaps "helps" is a better word. There is Nave's Topical Bible, which organizes the Bible by topic, and a Hebrew/Greek Transliterated Bible. It gives the original Greek and Hebrew (in transliteration) for every noun, pronoun, verb, and adjective in the Bible. Prepositions and conjunctions are omitted, which is a serious mistake in my opinion. Strong's dictionary defines each word and cross-references it to cognates. You can search for Greek and Hebrew words in the transliterated Bible as easily as for English words in the English versions.

In the Windows version verses can be copied to the clipboard for transfer to a word processor, and a similar device exists in the DOS version. You can also create an index of all the verses that pertain to some topic, and then combine that index with others. You can write notes for words or verses, without leaving QuickVerse, and attach them to the text.

AN EXAMPLE, PLEASE?

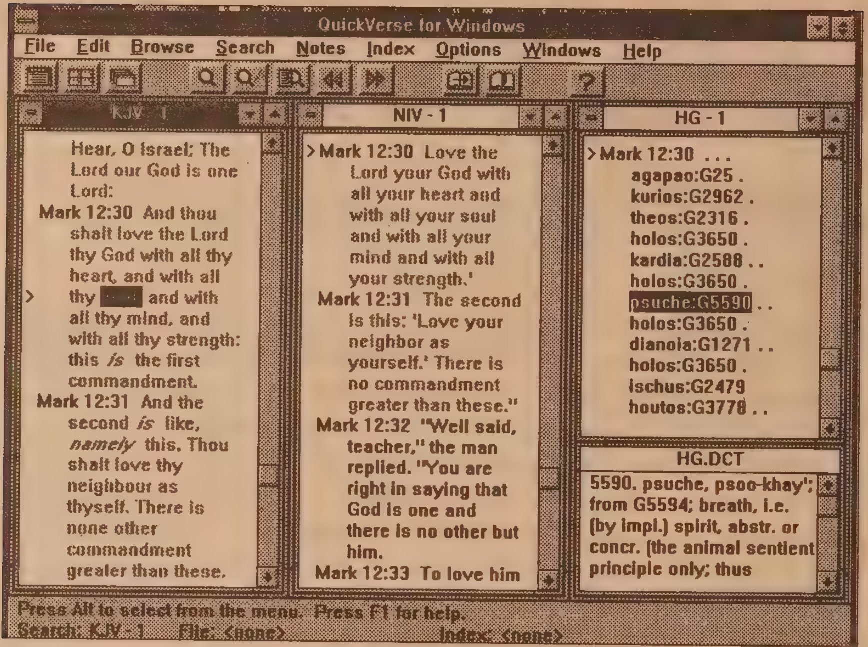
I wanted to find the origins of Jesus' Two Great Commandments. The ways I was able to pursue this question shows the power and flexibility of QuickVerse.

I opened three Bible versions simultaneously. I used the King James for most of my work, the New International Version to see modern scholars' opinions, and the transliterated Hebrew-Greek to pursue origins.

Remembering that the phrase "love thy neighbour as thyself" was in the Commandments, I used that phrase in the Search window. QuickVerse returned seven places in the Bible where the phrase is used. Two of them are the New Testament locations of the Commandments. The full version at Mark 12:29 is:

Mark 12:29 And Jesus answered him, The first of all the commandments is, Hear, O Israel; The Lord our God is one Lord:
Mark 12:30 And thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength: this is the first commandment.
Mark 12:31 And the second is like, namely

Copyright © 1993 by Birrell Walsh. All rights reserved.
Birrell Walsh can be reached via the Internet as birrell@well.sf.ca.us



Hear, O Israel; The Lord our God is one Lord:
Mark 12:30 And thou shalt love the Lord thy God with all thy heart, and with all thy [illegible] and with all thy mind, and with all thy strength: this *is* the first commandment.
Mark 12:31 And the second *is* like, *namely* this, Thou shalt love thy neighbour as thyself. There is none other commandment greater than these.

>Mark 12:30 Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength.'
Mark 12:31 The second is this: 'Love your neighbor as yourself.' There is no commandment greater than these."
Mark 12:32 "Well said, teacher," the man replied. "You are right in saying that God is one and there is no other but him.
Mark 12:33 To love him

>Mark 12:30 . . .
agapao:G25 .
kurios:G2962 .
theos:G2316 .
holos:G3650 .
kardia:G2588 . .
holos:G3650 .
psuche:G5590 . .
holos:G3650 .
dianoia:G1271 . .
holos:G3650 .
ischus:G2479
houtos:G3778 . .

5590. psuche, psoo-khay'; from G5594; breath, i.e. (by impl.) spirit, abstr. or concr. (the animal sentient principle only; thus

Press Alt to select from the menu. Press F1 for help.
Search: KJV - 1 File: <none> Index: <none>

this, Thou shalt love thy neighbour as thyself. There is none other commandment greater than these.

Even though I am a parochial-school kid, I recognized the phrase "Hear, O Israel, the Lord our God is one Lord" as the Shema, the basic affirmation of Judaism. Were the Two Commandments also traditional Jewish formulas from the Old Testament?

I asked QuickVerse to look up "love the Lord" only in the Old Testament. It found twelve references, and the first one was the model for Jesus' first commandment:

Deu 6:5 And thou shalt love the Lord thy God with all thine heart, and with all thy soul, and with all thy might.

Searching for "love thy neighbour as thyself," I found this Old Testament citation:

Lev 19:18 Thou shalt not avenge, nor bear any grudge against the children of thy people, but thou shalt love thy neighbour as thyself: I am the Lord.

I had never known that Jesus' "Great Commandments" were entirely traditional Jewish formulations. QuickVerse allowed me to discover the fact for myself, in less than five minutes.

The Hebrew/Greek Transliterated version is keyed to the King James Version. You can click on any word in the KJV and the corresponding word in the original language will be highlighted in the transliterated version. It will also be called up in the dictionary window. I clicked on "soul" in the KJV, and the dictionary told me it translated "psuche," which we borrowed to make our word "psyche." But it said a lot more:

***5590. psuche, psoo-khay'; from G5594;** breath, i.e. (by impl.) spirit, abstr. or concr. (the animal sentient principle only; thus distinguished on the one hand from G4151, which is the rational and immortal soul; and on the other from G2222, which is mere vitality, even of plants: these terms thus exactly correspond respectively to the Heb. H5315, H7307 and H2416):—heart (+ -ily), life, mind, soul, + us, + you.*

Each of the numbers beginning with a G or H refers to a specific Greek or Hebrew word. They are represented by numbers rather than by the word itself because Greek and to some extent Hebrew are inflected languages in which words can have a variety of forms. QuickVerse can search on these code numbers for the Greek and Hebrew words, letting you find every context in which each word is used.

Having the original vocabulary allows you to check apparent equivalences. Does the English word "strength" always translate the same Greek idea? I found that the English word "strength," which QuickVerse tells me is used seventeen times in the New Testament, translates eight different words in Greek.

Access to the original language also opens whole new questions. It does not take long to discover that all the words for both "soul" and "spirit" in both Greek and Hebrew imply breathing and wind. I found myself wondering if there was a lost Mediterranean tradition of breath control, analogous to India's pranayama? This is not the kind of question most software brings to mind.

QuickVerse permits a fair amount of depth research into the Bible. If you wish to study the King James Version with the "source code," QuickVerse will attach the original Hebrew and Greek words from Strong's Dictionary as a note to each English word. When I asked QuickVerse to attach the original-language words to these three verses (Mark 12:29–31) and print the result, it gave me three single-spaced pages of text and notes.

There are criticisms—the Hebrew and Greek dictionary is more than a century old. It does not take advantage of the latest scholarship in ancient languages. The omitted prepositions, conjunctions, and pronouns mean that you cannot sound out the rhythms and beauty of the original. But I have done more Bible research in the few weeks since I got QuickVerse than I had done in the preceding twenty years. The software makes all parts of the Bible accessible.

BEYOND TRANSLATION

If you are not satisfied with transliterations, Parsons can carry you even farther into the original. The company markets DOS software-and-book combinations (Greek Tools and Hebrew Tools, $39 each) to help you learn both Greek and Hebrew. The Greek Tools comes with Dobson's *Learn New Testament Greek*. The Hebrew Tools book is Volume 1 of *Biblical Hebrew Step by Step* by Menahem Mansoor. Both have supporting software packages with grammatical summaries, on-screen flashcards to drill

continued on page 248

AT PRESS TIME:

- If you are on the WELL (the best online community in the world: 415/332-6106), visit the "cross" conference and read topic 13, response 108. It is the "Really Strange Version" of Genesis 1, created by accident when two versions of Bible software were almost compatible.
- If you are a serious Bible Scholar; and you know Hebrew or Greek, you should look at Bible Windows 2.1 from Silver Mountain Software (214/293-2920). While QuickVerse works with transliterations of the original languages, Bible Windows works with texts in Greek and Hebrew. Available are the Hebrew Old Testament, the Septuagint (a Greek translation of the Old Testament made by Greek-speaking Jews in Hellenistic Alexandria), the Greek New Testament, the Latin Vulgate of the irascible St. Jerome, the King James Version, and the Revised Standard Version.

Texts in Greek and Hebrew are tagged with grammatical information, a blessing if your scholarship is rusty. An online dictionary will look up any Greek and most Hebrew words (a few proper names are excluded). Best of all, Bible Windows comes with True Type and Type One Adobe Greek and Hebrew Fonts, which you can use in any Windows application. The Greek works fine; the Hebrew does not include a right-to-left typing facility.

Prices begin at $125 for the King James Version and the Greek New Testament. The Hebrew version costs an additional $80.

MORE COMPUTER BUYS FROM FRY'S!

486SX-25MHz
MINI TOWER SYSTEM

80486SX 25MHz CPU
2 Hard/2 Floppy Disk Controller
1MB RAM Expandable to 16MB
3.5" 1.44MB Floppy Drive
Keyboard • Clock/Calendar
Monitor Sold Separately
#1737811

$399

IBM MANUFACTURED
486SLC2-50MHz
250MB SYSTEM

- IBM 486SLC 2/50 CPU Licensed by Intel • Internal 16K cache (twice the 486DX cache)
- 50MHz 486DX2 performance (use powermeter V1.17) • 4MB RAM Expandable to 32MB in board
- 250MB IDE Hard Drive
- Paradise WD90 C31 window - accelerator built-in
- Resolution up to 1280 x 1024
- 16 million colors, 16 bit "True Color"
- 1.44MB FDD, IDE interface with 2 serial, 1 parallel, 1 mouse port built-in
- 101-Key Keyboard
- System built and tested by IBM for less than 1% of defect rate
- 5 available 16 bit slots

Monitor sold separately #1808146

486-50 19.5 MIPS DHI V1.17

$1199

1.9 lbs.
SUB-NOTEBOOK

RUNS ON 4 AA BATTERIES
UP TO 10 HOURS

2MB RAM • 2MB ROM • 2 PC MCIA Type II Slots
Fax/Modem Built-In • Serial/Parallel Ports
640 X 400 Resolution **Pre-loaded Software:**
DR DOS • Bitfax • LapLink XL • BitCom
DataSel Gold Contact Manager • By OMRON #1809653

Batteries not included

$699

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

OmniBook 300
Superportable PC

386SX CPU • 2MB RAM • 40MB Hard Drive
2 PCMCIA Type II Slots • Serial/Parallel
MS Windows • MS Word For Windows
Laplink Remote Access • 3lbs. • Mouse #1794333

$1899

Canon NOTEJET
486SLC
25MHz
135MB NOTEBOOK WITH BUILT-IN BUBBLEJET PRINTER

486SLC 25MHZ CPU • BubbleJet Printer Built-In • 4MB RAM
3.5" 1.44MB Floppy Drive • VGA Output • 135MB Hard Drive 2
PCMCIA Expansion Slots • MS DOS 5.0 • MS Windows
#1794285

$2799

TOSHIBA
T1900/120
486SX-20MHz
LCD NOTEBOOK

3.5" 1.44MB FLOPPY • SERIAL PARALLEL
4MB RAM • 120MB HARD DRIVE
VGA • 6.4 lbs. • MS DOS 6.0 #1800975

$1999

TOSHIBA
T4500/120
COLOR NOTEBOOK

3.5" 1.44MB FLOPPY • SERIAL PARALLEL
4MB RAM • 120MB HARD DISK
COLOR ACTIVE MATRIX
PCMCIA • CORDLESS MOUSE #1770551

$2999

486SLC *Avanti*
25MHz
120MB COLOR NOTEBOOK

486SLC 25MHz CPU • CYRIX SLC Chip with 1K Cache
4MB RAM • 120MB Hard Drive
3.5" 1.44MB Floppy Drive • MS DOS • MS Windows
Winfax • 96/24 Fax/Modem • Trackball #1767979

$2599

PACIFIC
DATA PRODUCTS

POSTSCRIPT FOR HP4 LASER PRINTER

Requires minimum 4MB additional memory. #1802276

$289.99

3.5" DS/DD FORMATTED DISKETTES

LIFETIME WARRANTY

48¢ EACH

Sold in packs of 25 only for $11.99
#1766761

MID-SIZE TOWER CASE WITH 200 WATT POWER SUPPLY

#1742440

$88

3.5" DISKBOX

Holds 50 3.5" Diskettes
by Inland #1666988

$3.99

MICROTRAC PC

Size 2.8" x 2.0" x1.25" • Weight 4.0 Oz
50 - 9600 DPI • Microsoft Compatible
Mounting Bracket Included
Serial & PS/2 Connectors
Drag-Lock Button
#1621903

MICROSPEED

$58.88

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good thru September 13, 1993

Limit Rights Reserved
Not Responsible For Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

CORPORATE P.O. FAX # (408)735-6800

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

386SX 25MHz
COMPUTER SYSTEM

80386SX 25MHz CPU
2 Hard /2 Floppy Disk Controller
1MB RAM Expandable to 16MB
3.5" 1.44MB Floppy Drive
Keyboard • Clock/Calendar
Case/Power Supply
Monitor Not Included
#1659210

$279

486DLC 33MHz
COMPUTER SYSTEM
CYRIX 486DLC CPU

80486DLC 33MHz CPU
1MB RAM Expandable to 32MB
2 Hard/2 Floppy Controller
3.5" 1.44MB Floppy Drive • Keyboard
Clock/Calendar • Case / Power Supply
3M Cleaning Kit
Monitor Not Included
#1743603

$399

486DX 33MHz
MINI TOWER SYSTEM

80486DX 33MHz CPU
1MB RAM Expandable to 32MB
3.5" 1.44MB Floppy Drive
2 Hard /2 Floppy Controller
Keyboard • Clock/Calendar
Case/Power Supply
Monitor Sold Separately
#1727092

$599

IBM MANUFACTURED
486SLC2-50MHz
COMPUTER SYSTEM

IBM 486SLC 2/50MHz CPU
Paradise WD90 C31 Windows - accelerator built-in
Resolution up to 1280 x 1024 24 BIT • IDE Controller
5 available 16 bit slots • 2 Serial/1 Parallel
Monitor and
keyboard
not included
#1804212

$699

Avanti 486SLC 25MHz
120MB COLOR NOTEBOOK

486SLC 25MHz CPU • CYRIX SLC
Chip with1K Cache • 4MB RAM
120MB Hard Drive • 3.5" 1.44MB
Floppy Drive • MS DOS
MS Windows • Winfax • 96/24 Fax/
Modem • Trackball
Color Screen
256 Colors Simultaneously
#1767979

$2599

MITAC

486SLC 33MHz
120MB NOTEBOOK

486SLC 33MHz CPU
3.5" 1.44MB Floppy Drive
4MB RAM • 120MB Hard Drive
5.5Lbs. • Serial/Parallel Ports
VGA Graphics • MS DOS 5.0
MS Windows 3.1
#1786088

$1588

MOTHERBOARDS

386SX-25MHz **$98**
#1634334

386DX-40MHz NC **$148**
#1810543

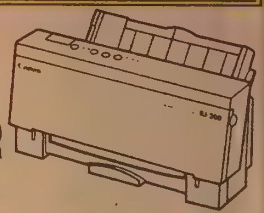
386DX-40MHz **$179**
#1735200

LOCAL BUS VESA

486DX-33MHz **$499.95**
#1754962

486DX2-66MHz **$899.95**
#1754973

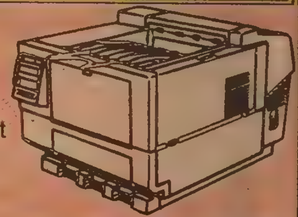
Canon
BJ-230
DESKTOP PRINTER



Handles all your essential business printing needs, including large formates, up to 11" X 17". Laser quality printing at 360 X 360 dpi. Laser quality, without laser price. For faster printing, supports bi-directional graphs. The BJ-230 rivals the speed of a 4 ppm laser printers. Compact size save space in a small office setting. Gives all your business documents a professional look.
#1805305

$419

SHARP
LASER PRINTER



8PPM, 300 DPI addressable w/ 600 DPI Print engine, PCL 5, HRT, 1MB Ram, 500 sheet cap., Dual 250 Sheet trays, 15,000 pages of supplies, sleep mode, parallel interface, 2 font card slots.
Sharp JX-9600
#1813513

$849

Charlie Chip Says:
"Your Best Computer Buys Are Always At...

Fry's ELECTRONICS"

DATA CARTRIDGE CORNER

DYSAN	DYSAN
SAVE THE THINGS THAT MATTER MOST™	SAVE THE THINGS THAT MATTER MOST™
120MB DATA CARTRIDGE	**150MB DATA CARTRIDGE**
1/4" tape, Unformatted DY2120 #1781496	1/4" tape, Unformatted, Dual Belted, Lifetime Warranty DY6150 #1786620
$14.99	$17.95

14 + 1 1024 X 768 .28 DOT PITCH NON-INTERLACE SVGA MONITOR EQUIVALENT TO 15" SIZE

024 X 768 • 258 X 185 Display Area
72Hz Refresh
#1804234

HANA

$349.95

TV CARD

Turn your VGA monitor into a TV. Watch TV and alternate between both modes.
Internal TV card • Works on IBM & compatibles.
Accent Data Solutions #1812914

$99

1024 X 768 NON-INTERLACED 20" SUPER VGA MONITOR

1024 X 768
Non-Interlaced .31 Dot Pitch
Flat Screen • INVAR Shadow Mask
70HZ Refresh VESA • 20" Large Screen
SAMPO
KDM-2055
#1691764

SAMPO AMERICA

$1199

FELLOWES.

MULTI MEDIA STORAGE TRAY

Stores 80- 3.5" Diskettes
or 60- 5.25" Diskettes
or 16- CD ROM or Data Cartridges.

STORES 80 3½" DISKETTES
STORES 60 5¼" DISKETTES
STORES 16 CD-ROM OPTICAL DISKS

$4.99

#1648928

PERFECT POINTING PERFORMANCE

ACECAT PC GRAPHICS TABLET & MOUSE EMULATOR

1000 Lines Per Inch
5" X 5" Active Area. Includes Stylus-Pen and Comprehensive Utilities Diskette Including Custom Drivers for Mouse, Windows, Control Panel and ADI.
#1659900

$109.99

DETER DATA DISASTER

BACK UPS 250

Modified Sine wave output safer for all equipment types than square wave
250 Volt/AMP Backup Power Supply
2 Outlet • EMI/RFI filtering
10 Minutes Back-Up
At 250VA #1651164

American Power Conversion APC

$109.99

Easy OPTIONS by IBM

250MB EXTERNAL TAPE BACK-UP

Data and power cables with software and tape.
Model TD632
#1780185

$348

8500VL 32-BIT VESA LOCAL BUS SVGA CARD

16 Million Colors 24-Bit • 1MB RAM
32-Bit VESA
#1763816

Genoa SYSTEMS CORPORATION

$139

NTERLINK

PortaPoint

Gently touch the unique sensor button to control both speed and direction. PortaPoint comes complete with a PS/2 adapter, a quick-release Velcro attachment and a 3 1/2" DOS driver diskette (5 1/4" available).
#1747825

$59.99

ISA/20 SCSI

16bit SCSI controler
2.8/1.44 FFD/7 SCSI HD
WID/DOS/NOVELL/UNIX/OS2
#1810842

$139.95

REDUCE RETINAL RADIATION

MEMOREX COMPUTER SUPPLIES

UNIVERSAL RADIATION FILTERS

For monitors up to 15" Diagonal
99% Glare Reduction
98% Very Low Frequency
Extremely Low Frequency
E-Field Radiation Protection #1672921

$49.95

SPACE SAVING SOLUTION

UNIVERSAL SYSTEM STAND

Vertical CPU stand frees up valuable desk space.
Adjustable stand holds units from 4.5" to 6.25" #1619403

$5.99

FULL METAL JACKET

6 OUTLET 3 PHASE FULL SURGE PROTECTOR

Clamping Response
Time <1 Nanosecond
Energy Dissapation 50/150 Joules
#1695713

$7.95

MULTIMEDIA DESKTOP CASE

Multimedia Case w/ 2 speakers
volume control • microphone plug
and much more
#1813878

$159.95

QSP ETHERNET 16C CARD

16bit Ethernet
10 Base-T • Twisted Pair
RJ-45 • DB15
BNC • Wide range IRQ
#1802380

$79.95

PARALLEL PRINTER BUFFER

Kansai

EXPANDABLE TO 8MB USING 1 X 8 SIMM MODULES
27K Per Second Input
15K Per Second Thru-put #1711462

$144.95

PERIPHERAL VERSATILITY

DB25 2 POSITION SWITCH BOX

Access 2 computers to 1 printer or 2 printers to 1 computer.
Serial/Parallel DB25-02 #1432891

ENHANCE

$6.99

BLACK 101 - KEY KEYBOARD

By Antech
#1780738

$49.99

HOME OF FAST, FRIENDLY, COURTEOUS SERVICE

Fry's ELECTRONICS

Limit Rights Reserved
Not Responsible For Typographical Errors

Prices good thru September 13, 1993

STORE HOURS
MON - FRI
8AM - 9PM
SATURDAY
9AM - 8PM
SUNDAY
9AM - 7PM

SUNNYVALE 1177 Kern Ave. (408) 733-1770
CORPORATE P.O. FAX # (408)735-6800

PALO ALTO 340 Portage Ave. (415) 496-6000
CORPORATE P.O. FAX # (415) 496-6044

FREMONT 440 Mission Ct. (510) 770-FRYS(3797)
CORPORATE P.O. FAX # (510) 770-3700

VISA and MasterCard Accepted

Apple® Macintosh®
Computers and Accessories

Authorized Reseller

On-the-spot **rebates.**
On-target **solutions.**

Apple® Macintosh® Color Classic® 4/80

The Apple* Macintosh* Color Classic* computer combines the performance and affordability of the Apple Macintosh Classic II with the ability to display up to 256 colors on its built-in Trinitron screen.
- 4MB of RAM, expandable to 10MB
- 40MB, 80MB, or 160MB internal hard disk
- Built-in LocalTalk* connection
- AppleTalk* networking software
- Easy to transport
- A member of the Classic Macintosh product line

*After On-The-Spot Rebate.
#1767430

$1079*

Apple® Macintosh® Centris™ 610 4/80

Now there's an affordable way to take advantage of the power of the 68040 microprocessor: the Apple* Macintosh* Centris™ 610 desktop personal computer. Like all Macintosh Centris computers, the Macintosh Centris 610 delivers the high performance you need to get the job done in a demanding environment, while giving you the flexibility to configure your system to meet your needs today and tomorrow. Monitor and Keyboard Not Included

*After On-The-Spot. Rebate.
#1765748

$1199*

Apple® Macintosh® Centris™ 650 8/230

Now there's an affordable way to take advantage of the power of the 68040 microprocessor: the Apple* Macintosh* Centris™ 650 desktop personal computer. Like all Macintosh Centris computers, the Macintosh Centris 650 delivers the high performance you need to get the job done in a demanding environment, while giving you the flexibility to configure your system to meet your needs today and tomorrow.
Monitor & keyboard not Included
#1765771

$2199

Apple® Macintosh® Quadra™ 800 8/230

With its fast, 33-megahertz Motorola 68040 microprocessor, accelerated graphics architecture, and improved SCSI and NuBus capabilities, the Macintosh Quadra 800 runs applications 30 percent faster than the Quadra 700. The Macintosh Quadra 800 gives you unique, built-in capabilities for fast and direct access to the resources you need. For photographic quality images and QuickTime movies with lifelike color, you can upgrade the Quadra 800 to display more than 32,000 colors on the same 16-inch display. If you need to share information in a high-speed network, the Quadra 800 comes with built-in Ethernet.

Monitor & Keyboard Extra
#1767706

$2999

Apple® Macintosh® Quadra™ 950/230

Maximum power, expansion, flexibility—the Apple* Macintosh* Quadra™ 950 personal computer delivers all three in the most powerful Macintosh ever. Unlike other personal computers, the Macintosh Quadra 950 comes with many built-in capabilities that give you fast, direct access to the resources you need. Built-in networking for plugging into Ethernet and LocalTalk*. Built-in support for all Apple displays. Ten built-in ports for instant access to printers, scanners, high-capacity disk drives, and more.
- Highest Performance Desktop Macintosh
- Excellent Choice For Business Professionals
- 8 MB RAM • 230MB Hard Drive

Monitor and Keyboard Extra
#1713556

$3699

APPLIED ENGINEERING

TRANSWARP TW1325 MAC SE

68030 25MHz accelerator for MAC SE.
#1795404

$199.99

APPLIED ENGINEERING

TRANSWARP TW2325 CLASSIC

68030 25MHz accelerator for MAC Classic. #1795415

$199.99

MACINTOSH COMPUTER COVERS BY BASIC NEEDS INC

Eonomical
Covers for all your computers monitors and printers.

ACECAT MAC GRAPHICS TABLET & MOUSE EMULATOR

1000 Lines Per Inch
5" X 5" Active Area. Includes Stylus-Pen and Comprehensive Utilities Diskette Including Custom Drivers for Mouse, Control Panel and ADI.
#1781393

$129.99

Apple® Personal LaserWriter® NTR

The Apple* Personal LaserWriter* NTR printer offers you exceptional value in a compact laser printer. It uses a high-speed RISC processor for faster printing speed and very fast first-page output. It offers high-performance PostScript™ Level 2 capabilities that allow you to produce high-quality graphics and text, and give you access to hundreds of fonts from both Apple and third-party vendors. And its ability to connect simultaneously to Macintosh* and IBM PC (or compatible) computers or networks makes it an excellent choice for small workgroups in multivendor computing environments. Printer card & toner.
#1714351

*After On-The-Spot Rebate

$789*

Apple® LaserWriter® Select 300

The Apple* LaserWriter* Select 300 provides laser printing with high-quality results, an expansion path to PostScript, printer sharing from multiple Macintosh computers, and extensive paper-handling capabilities.
300 dpi • 5 pages per minute
512K RAM expandable to 4.5MB RAM
Supported Languages: Adobe PostScript (makes use of Apple QuickDraw; PostScript supports available optional upgrades)
39 scalable TrueType fonts • High-speed RS-422 serial interface • *Paper tray size:* 250 sheets or 15 envelopes • *Networking:* Printer sharing through GreyShare software

#1767773

$749

Apple® LaserWriter® Pro 600

The Apple® LaserWriter® Pro 600 is perfect for individuals or groups who need the ability to print many pages per day, or complex graphics. The LaserWriter Pro 600 is one of Apple's highest-performance printers, printing at eight pages per minute. It supports TrueType™, Adobe™ PostScript™ Level 2, and PCL 4+fonts. Plus, it takes advantage of Apple's PhotoGrade™ technology and comes with 64 scalable fonts.

#1757806

$1999

HEWLETT PACKARD Authorized Dealer

DeskWriter Inkjet Printer

LASER QUALITY FOR THE MAC
300 DPI • Variety of Fonts & Font Sizes
Appletalk Interface • Whisper Quiet!
#1502837

$299

HEWLETT PACKARD Authorized Dealer

DeskWriter C Color InkJet Printer

COLOR INKJET OUTPUT AT 300 DPI!
Prints in Color or Black and White
Appletalk Interface
100 Sheet Paper Feeder
Whisper Quiet • 3 Year Warranty
#1616868

$399.99

HEWLETT PACKARD Authorized Dealer

DeskWriter 550C Color InkJet Printer

COLOR INKJET OUTPUT AT 300 DPI!
Prints in Color or Black and White at the same time.
Localtalk Interface • 100 Sheet Paper Feeder
Whisper Quiet • 3 Year Warranty
35 Scallable fonts • Bulit-in spooler
#1733699

$569

HEWLETT PACKARD Authorized Dealer

LaserJet 4M

Fast 8ppm printing for complex documents
PostScript™ on SIMM/PCL5
6MB RAM
600 DPI Print Quality at a 300 DPI Price
300 Page Paper Capacity • Local talk
Serial/Parallel • Works equally well with PC's or MAC's
#1734151

$1899

HEWLETT PACKARD Authorized Dealer

LaserJet 4SiMX

Expandable and flexible, excellent for networks. Fastest HP LaserJet printer at 17 pages per minute. Multiple language capability with auto switching. True 600 x 600 dpi printing with REt and microfine toner. 75,000 page/ month duty cycle and flexible paper-handling with HP quality and reliability. #1779608

$4299

IOMEGA

Handles like a floppy, performs like a hard disk.

IOMEGA MAC TRANSPORTABLE BERNOULLI 90

- 18-msec effective access time
- Rugged Bernoulli Technology
- The right disk for the right job
- Reads and writes 90MB Bernoulli Disks, reads 44MB Bernoulli Disks

#1765070

$549

GRAVIS MOUSE STICK MAC

- 3 Fire Buttons
- Adjustable Tension Controls

#1440168

$59.99

datadesk INTERNATIONAL

101Key MAC KEYBOARD

For Mac SE, SE30, Mac II
#1596481

$129.99

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

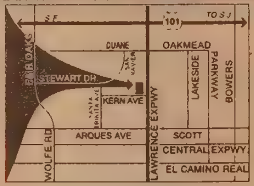
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

Prices good through September 13, 1993

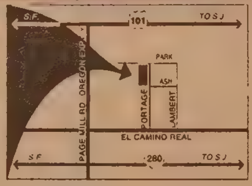
Limit Rights Reserved
Not Responsible For Typographical Errors

VISA AND MASTERCARD

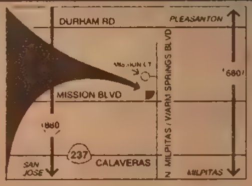
CORPORATE P.O. FAX #



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

Apple® Macintosh® Powerbooks™ and Accessories

Authorized Reseller

On-the-spot **rebates.**
On-target **solutions.**

Apple® PowerBook™ 145B 4/40

The Apple PowerBook 145B is the most affordable Powerbook computer. It combines the power of a 68030 microprocessor with the convenience of a all-in-one package, making it a superior choice for high-performance, low-cost notebook computing. The PowerBook 145B gives you a remarkably comfortable way to work, thanks to its innovative design. An integrated trackball and palm rest make it easy for you to work with the computer on your lap, and you can quickly adjust the standard-size keyboard and full-page width display.
4MB RAM • 40MB Hard Drive
#1801998

$1299

Apple® Macintosh® Powerbook™ 160 4/40

The Apple® Macintosh® PowerBook™ 160 computer gives you flexibility and power in an incredibly compact notebook computer. Its 16-level gray-scale display and video-out capabilities make it a good choice for anyone who works outside the office and needs a notebook computer for customer and client presentations.
#1738270

$1449

Apple® Macintosh® Color PowerBook™ 165c 4/80

With the PowerBook™ 165c, the impact and appeal of a bright, vivid color display is now available on a portable Macintosh computer. It delivers the processing speed, flexibility, and convenience you need all in a package that weighs just seven pounds and fits into a briefcase. It also features a backlit passive-matrix display that gives you 256 brilliant colors. You can also connect to a larger display for more work space.
#1767393

$2199*

*After On-The-Spot Rebate

Apple® Macintosh® Powerbook™ 180 4/80

The Apple® Macintosh® PowerBook™ 180 computer is the most powerful member of the PowerBook family of notebook computers. It combines incredible speed with high performance and the best screen quality available today, to give you a notebook that's flexible, functional, portable, and powerful. The PowerBook 180 has everything you need for impressive client presentations. Video-out capabilities let you work on a variety of external displays, both monochrome and color. It comes standard with 4 megabytes of RAM and runs applications up to 50 percent faster than the PowerBook 140.
#1738306

$2899*

*After On-The-Spot Rebate.

Apple® Macintosh® Color Powerbook™ 180C 4/80

The Apple® Macintosh® PowerBook™ 180C computer is the most powerful member of the PowerBook family of notebook computers. It combines incredible speed with high performance and the best screen quality available today, to give you a notebook that's flexible, functional, portable, and powerful. The PowerBook 180C has everything you need for impressive client presentations. Video-out capabilities let you work on a variety of external displays, both monochrome and color. It comes standard with 4 megabytes of RAM and a built-in modem, and runs applications up to 50 percent faster than the PowerBook 140. Active Color Matrix
#1802014

$3399

Apple® Macintosh® PowerBook Duo™ 210 4/80

The Apple® Macintosh® PowerBook Duo™ 210 computer gives you the best of both worlds—desktop expandability and peripherals, plus PowerBook convenience and portability. Because soon, you'll be able to use it with a unique desktop docking system. The Macintosh PowerBook Duo 210 comes with 4 megabytes of RAM (expandable to 12), an 80 megabyte internal hard disk drive, and two expansion slots.
#1738339

$1199

Apple® Macintosh® PowerBook Duo™ 230 4/80

The Apple® Macintosh® PowerBook Duo™ 230 computer is Apple's highest-performance PowerBook docking system, offering you the convenience of a notebook computer plus the unique ability to take advantage of your desktop computer's files, storage, and accessories.
68030 33MHz CPU • 80MB Hard Drive
4MB of RAM Expandable to 24MB
2 Expansion Slots: 1 for Modem/ 1 for RAM
Serial Port • Docking connector
Power adapter Port • Modem port
9" Backlit Supertwist Display
Nickel-Hydride Battery • Built-in Appletalk
#1738340

$1599*

*After On-The-Spot Rebate

Apple® Macintosh® PowerBook Duo™ Dock

The Apple® PowerBook Duo™ Dock is perfect for individuals who want the convenience of a notebook computer and the flexibility of a complete desktop system. Its PowerLatch™ docking technology makes connecting the Apple PowerBook Duo a snap—insertion and removal is automatic. And you can't accidentally eject your notebook, so your data is always protected.
#1738432

$999

Apple® Macintosh® PowerBook Mini Duo™ Dock

- Small size and weight for easy portability
- PowerLatch docking technology
- Built-in video support for 256 colors
- Supports most Apple displays, including the Macintosh 16" Color Display, as well as some VGA and SVGA displays
- 9 built-in ports, including SCSI port
- Slot for a security cable
- Port for connecting external floppy disk drive

#1756779

$559

Apple® Macintosh® PowerBook Duo™ Express Modem

Apple's new Macintosh® PowerBook Duo™ Express Modem makes an excellent choice if you use a Macintosh PowerBook 160, 180, Duo 210, or Duo 230 and want high-speed data communications with fax send and receive capability. 57,600 bits-per-second (bps) data transfer. 9600 bps send/fax. Built-in smoothing feature.
#1738421

$299

DICONIX 180si PRINTER

PLAIN PAPER INKJET NOTEBOOK PRINTER!

Kodak

145 CPI Draft, 29 CPI Quality Mode
Tractor-Feed, Single-sheet or Transparency output.
Multiple Font Selection • LED Control Panel
192X192 Text & Graphics Resolution.
"C" Ni-Cad or A/C Power
Parallel/Serial Interfaces

$289

#1657757
#1795828
With Macintosh Interface

PACE

A Step Ahead in Custom Cases

NOTEBOOK CARRYING CASE

Made to carry your computer notebook including Apple PowerBooks or the Cannon BJ10e.

- 13.5" wide x 11" deep x 2" high
- .5" Closed-cell padding
- Pocket that is 13" wide x 10" deep x 2" high

COM 600 #1798669

$39.99

GCC WRITE 11 PORTABLE MAC

Portable printer for Powerbook and regular Macintosh.
#1795840

$549

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

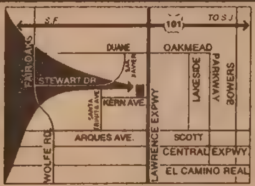
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

Prices good through September 13, 1993

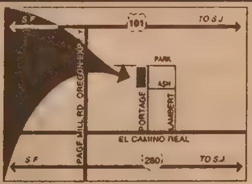
Limit Rights Reserved
Not Responsible For Typographical Errors

VISA AND MASTERCARD

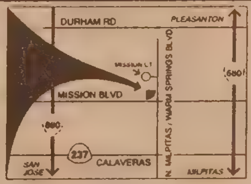
CORPORATE P.O. FAX # (408)735-6800



SUNNYVALE
1177 Kern Ave.
(408) 733-1770



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044



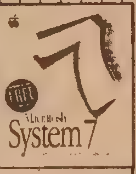
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

Apple® Macintosh® Software &Accessories

Authorized Reseller

Authorized Reseller

Apple® System 7


FREE
Macintosh
System 7

Macintosh® System 7 is one of the most significant advances in personal computing since the introduction of MAC®. It gives your MAC powerful, new capabilities and makes it even easier to use. It also paves the way for a new generation of advanced MAC applications. #1699898

$98⁹⁵

Microsoft Word 5.1

For Macintosh

Microsoft
WORD

Discover the biggest thing to happen to business documents since the typewriter. Now it's a snap to mix text, graphics, images, data and create tables.

MAC
#1658013

$288

Quicken

VERSION 4.0
FOR MAC

Quicken
for Macintosh

Quicken 4.0 for Mac is the fastest, easiest way to organize personal and small business finances. This award winning and best selling finance software includes:

- Investment Tracking
- Loan Amortization
- Tax Schedule reports and links
- Over 100 New Features

Intuit

#1798072

$46⁹⁵

Spectrum HoloByte™ IRON HELIX CD-ROM

Iron Helix is a science fiction thriller that immerses you in a great paced virtual reality filled with danger and intrigue. Control a robot probe or navigate through dozens of corridors and rooms. This CD action adventure game looks and feels more like a movie than a game.

MAC
#1801471

$64⁹⁵

STACKER

DOUBLES HARD DISK CAPACITY

DOUBLE
YOUR DISK
CAPACITY.
STACKER

Stacker- the award winning disc compression software is now available for the Mac. It doubles the capacity of your hard disk, and it is 100% compatible with all applications.

MAC
#1801448

$69⁹⁵

SYMANTEC.

Symantec AntiVirus for Macintosh

Symantec
AntiVirus for
Macintosh

SAM VIRUS DETECTOR

MAC

The best selling, highest rated virus protection, detection and repair program.

MAC
#1464238

$74⁹⁵

MATH BLASTER Plus! For Mac

New MATH BLASTER
math

New Math Blaster Plus rockets into a new dimension with cosmic new activities and graphics, including an arcade style game which is out of this world. It covers addition, subtraction, multiplication, division, fractions, decimals, percents and teaches over 750 math facts and problem solving skills.

MAC
#1523650

$36⁹⁵

THE PLAYROOM

THE PLAYROOM

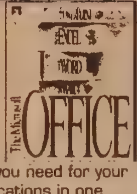
Playroom turns child's play into child's learning. They learn about letters, numbers and time. More important, they learn that learning itself can be an exciting adventure.
MAC

Brøderbund

#1497115

$31⁹⁵

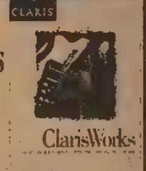
Microsoft OFFICE 3.0 for Macintosh


EXCEL
WORD
The Microsoft OFFICE

MS Office is all that you need for your office. Four top applications in one box. MS Excel, MS Word, MS Power Point and MS Mail. #1699452

$469

CLARIS ClarisWorks


CLARIS
ClarisWorks

New ClarisWorks™ has all the power and more, with complete word processing, graphics, spreadsheet, charting, database, and communications capabilities all in one seamlessly integrated application.

#1643303

$196⁹⁵

640 x 480 14" MAC COLOR MONITOR

.28 Dot Pitch • 640 x 480
With Cable
CM2080 #1748516

$399

ASANTE NETWORK PRODUCTS FOR MACINTOSH AT FRY'S

THE MIRACLE

PIANO TEACHING SYSTEM

THE SOFTWARE TOOLWORKS

PIANO TEACHING SYSTEM

First piano that teaches you how to play it! Enjoy video games while mastering basic piano techniques. Customizes individual learning with creative, interactive software.
#1678019

$369

MASS microsystems

SYSTEM HARD DRIVES

EXTERNAL

#1777927	210MB	$449
#1777916	120MB	$299

21MB FLOPTICAL

#1777983 $379

VOMAX 2000 THE ULTIMATE MOBILE AND HOME OFFICE - VOICE MAIL/FAX MAIL/MODEM

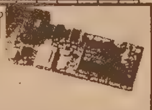
- World's first Voice and Fax Mail Box
- Stand alone digital answering device
- Remote retrieval of voice and fax messages
- Automatic store and forward voice and fax
- Pager Notification • Date and time stamp
- Single line automatic operation
- PC DOS, Windows and MAC support
- Group III fax compatibility • Touch tone programmable
- TV Fax voice annotation (Optional - Available Summer '93)

$399

#1796689

PIICEON

A Dynatech Company



PIICEON FAX/MODEM FOR THE APPLE POWERBOOK

PIICEON'S Dispatcher 14,400 data fax/modem, the most powerful by any manufacturer for the Apple PowerBook, is an intelligent, microprocessor-controlled communications device that operates at 300-14,400 bps in data mode and 2,400-14,400 bps in fax mode. With V.42 bis, MNP 5, MNP 10 and Group III fax capability, you simply cannot buy a better modem for any computer at any price. PIICEON's modems are FCC and DOC approved, operate in full duplex over the telephone network and comply with CCITT and EIA recommendations. #1793860

$269

COSTAR 40100 AddressWriter Printer

IBM or MAC
Envelope, Lables, Postcard
w/Software and cables
#1660948

CO STAR

$319

SIIG ADB EXTENDED KEYBOARD FOR MACINTOSH

#1783030

$109⁹⁹

UMAX 600 DPI COLOR MAC SCANNER WITH APPLE INTERFACE

PHOTOSHOP LITE • 603LE MAC
#1795426

$999

ColorMax™ 15"

Color display for Macintosh PowerBook 160, 180 and Duo computers

ColorMax 15 is a desktop plug-and-play color display ideal for use when creating high impact color presentations, multimedia demos and other serious color graphics applications in PowerBook computing environment. ColorMax 15 works with Macintosh PowerBook 160 and 180, and Powerbook Duos with Duo Dock and Duo MiniDock. It also works with Macintosh LC,IIsi, IIci, IIvi, IIvx and Quardra series computers. #1764998

SIGMA DESIGNS

$499

SEE MORE MACINTOSH HARD DRIVES IN OUR EXPANDED HARD DRIVE SECTION IN THIS MICROTIMES!

Fry's ELECTRONICS

Home of Fast, Friendly , Courteous Service

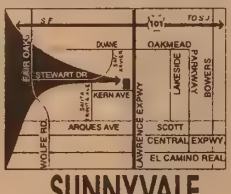
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

Prices good through September 13, 1993

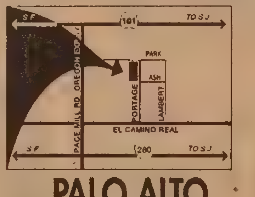
Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA AND MASTERCARD

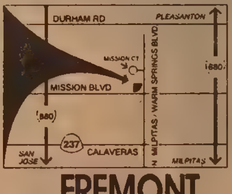
CORPORATE P.O. FAX # (408)735-6800


S.F.
101
TO S.J.
DUANE
OAKMEAD
FAIR OAKS
STEWART DR.
SANTA TRINITA
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
LAWRENCE EXPWY
WOLFE RD.
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S.F.
101
TO S.J.
OREGON EX.
PAGE MILL RD
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD
PLEASANTON
MISSION CT
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
680
880
SAN JOSE
237
CALAVERAS
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

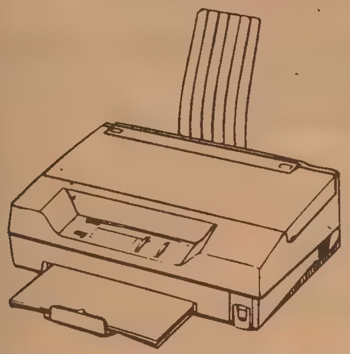
EPSON®

WHEN YOU'VE GOT AN EPSON
YOU'VE GOT A LOT OF COMPANY

EPSON'S NEW SCALABLE FONT DOT MATRIX PRINTERS HAVE BEEN WILDLY SUCCESSFUL - AND FRY'S™ HAS THEM!

EPSON Roman and San Serif- SCALABLE From 8 To 32 Points
9 Resident Bit-Mapped Fonts As Well As Top, Rear, Bottom and
Front Paper Feed Paths • Automatic Single Sheet and Continuous Form
Convertible Push/Pull Tractor • True 360 X 360 DPI Resolution for
Professional Quality Graphics • 2 Year Warranty

EPSON® ActionPrinter™ 3250



24 PIN PRINTER

50 Sheet Paper Cassette Tray • Quiet
ESC/P2 Control Language • Simple
Control Panel • Two Year Warranty

$179

AP-3250
#1667299

LQ-570+

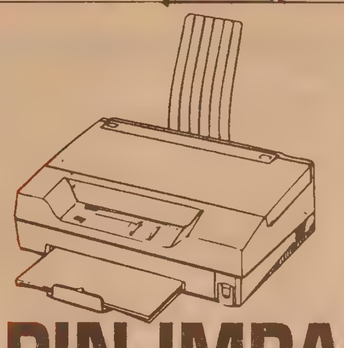
24 PIN PRINTER

w/ SCALABLE FONTS!

80 Column • 337 CPS Draft Mode
112 CPS Letter Quality • Four Scalable Fonts
360 dpi with Optional Film Ribbon
#1612004

$239

EPSON® ActionPrinter™ 2250



9 PIN IMPACT

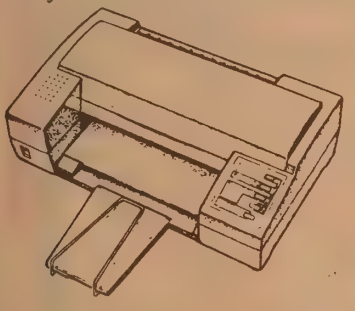
DOT MATRIX PRINTER

50 Sheet Paper Cassette Tray
240 CPS Draft, 48 CPS NLQ
Quiet • 2 Year Warranty
#1729120

$127⁹⁵

EPSON Stylus™ 800

INK JET PRINTER

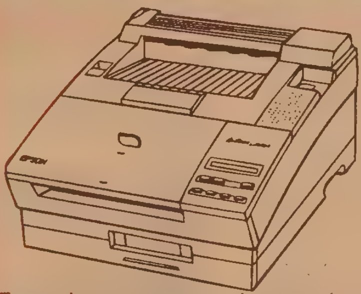


EPSON C106001
Stylus 800 Ink Jet Printer
(2 year warranty)
360 X 360 DPI "Laser-Sharp" printing
ESC/P2 LQ 7 Type Face with 4 Scalable Fonts
#1782785

$289*

*After $50 manufacture rebate. In store cost $339

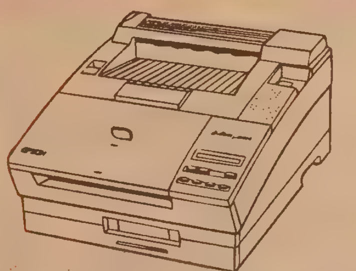
EPSON® ActionLaser™ 1000



Fast six pages per minute print speed makes you more productive. HP LaserJet IIP and Epson dot matrix compatible. 14 resident fonts. 512KB memory expandable to 6.5MB on motherboard. 6000-page single element imaging cartridge. Optional Adobe Postscript. Two year limited warranty. #1760237

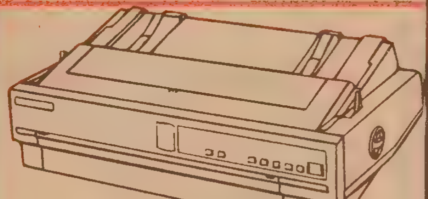
$629

EPSON® ActionLaser™ 1500



- Fast six pages per minute print speed.
- 300 X 300 dpi resolution with MicroArt printing and RITech technology.
- 14 resident fonts, 13 scalable to any size.
- LaserJet™ III and Epson dot matrix campatible.
- 1MB memory expanable to 5MB on motherboard #1798706

$688



LQ-1070
24-PIN PRINTER

136 Column • 11 Fonts
2 Scalable Fonts • 315 CPS Draft Mode
105 CPS
NLQ Mode #1620186

$359

Service EPSON® Extra Care Certificate for 1 year extended warranty service **9-Pin Printer $39⁹⁵ 24-Pin Printer $59⁹⁵**

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

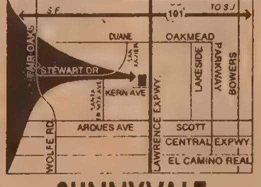
Prices good thru September 13, 1993

Limit Rights Reserved
Not responsible for typographical errors.

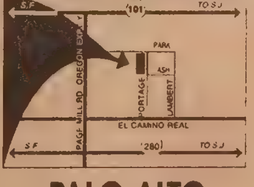
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA MasterCard
VISA AND MASTERCARD ACCEPTED

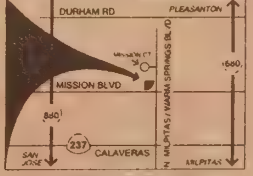
CORPORATE P.O. FAX # (408)735-6800


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
FAIR OAKS
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S.F.
101
TO S.J.
PAGE MILL RD
OREGON EXP
PORTAGE
LAMBERT
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD
PLEASANTON
MISSION BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

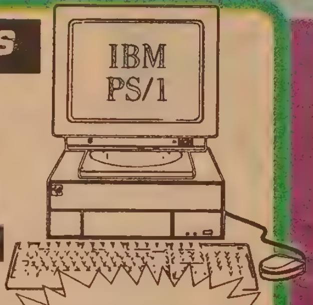
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

WE'LL BEAT ANY IBM PRICE IN TOWN
WE GUARANTEE IT!!!

IBM Business Partner
Authorized
Personal
Computer
Dealer

IBM® PS/1®

AT BUS



Expert 2133-S45

486SX-25MHz

80MB VGA SYSTEM

VGA DISPLAY INCLUDED

Intel 486SX 25MHz CPU • 80MB Hard Drive
2MB Memory Expandable to 32MB
3.5" 1.44MB Floppy Drive
3 AT Slots • 14" VGA Color Monitor
IBM Mouse • IBM Keyboard • 2400 BPS Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1767267

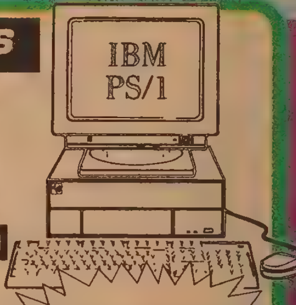
intel inside

IBM Business Partner
Authorized
Personal
Computer
Dealer

$1099

IBM® PS/1®

AT BUS



Expert 2155-S70

486DX-33MHz

170MB SVGA SYSTEM

SVGA DISPLAY INCLUDED

Intel 486DX 33MHz CPU • 170MB Hard Drive
4MB Memory Expandable to 64MB • 128K Cache
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • 14" SVGA Color Monitor • Local Bus SVGA
IBM Mouse • IBM Keyboard • Fax/Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1767304

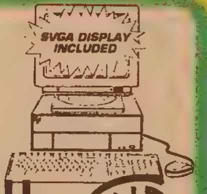
intel inside

IBM Business Partner
Authorized
Personal
Computer
Dealer

$1999

IBM® PS/1®

AT BUS


SVGA DISPLAY INCLUDED

Expert 2155-S85

486DX2-66MHz

250MB SVGA SYSTEM

intel inside

Intel 486DX2 66MHz CPU • 250MB Hard Drive
8MB Memory Expandable to 64MB • 128K Cache
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • 14" SVGA Color Monitor • Local Bus SVGA
IBM Mouse • IBM Keyboard • 2400 BPS Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality & reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 24 hours a day, 365 days a year.
#1767326

IBM Business Partner
Authorized
Personal
Computer
Dealer

$2799

IBM® PS/1®

AT BUS

SVGA DISPLAY INCLUDED

Expert S50

486SX-25MHz

170MB SVGA SYSTEM

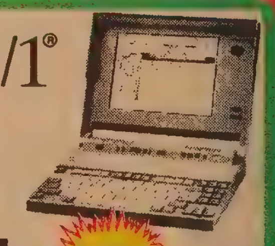
intel inside

Intel 486SX 25MHz CPU • 170MB Hard Drive
4MB Memory Expandable to 32MB
3.5" 1.44MB/5.25" 1.2MB Floppy Drives
5 AT Slots • 14" SVGA Color Monitor
IBM Mouse • IBM Keyboard • Internal Fax/Modem
Novell® certified
Preloaded Software: MS DOS 6.0 • Microsoft Windows 3.1 Microsoft Works for Windows • PRODIGY • P/S1 Tutorial, Index Fitness, • Virus check• PS/1 Edition American On-line
IBM Quality & Reliability: The PS/1 Expert is built to IBM's exacting standards for quality and reliability.
Support and Service: The exclusive online PS/1 Club™ answers your computing questions, 20 hours a day, 365 days a year.
#1767289

IBM Business Partner
Authorized
Personal
Computer
Dealer

$1599

IBM® PS/1®



486SL 25MHz

NEW

128MB NOTEBOOK

25MHz 80486SL CPU • 4MB RAM
3.5" 1.44MB Floppy Drive
28MB Hard Drive
Serial/Parallel /VGA Output
Pointing Device
5 hr. Battery
Built-in Fax/Modem • 5.2lbs.
Model 2168-M40 #1772575

IBM Business Partner
Authorized
Personal
Computer
Dealer

$1999

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

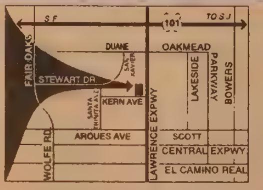
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

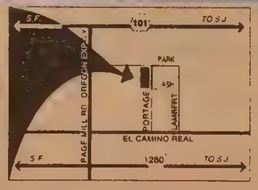
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA
MasterCard
VISA AND MASTERCARD

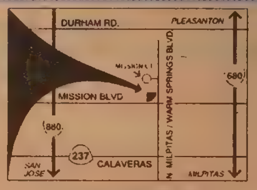
®IBM and Personal System/1 are registered trademarks of International Business Machines Corporation.


S F
101
TO S J
FAIR OAKS
DUANE
SAN XAVIER
OAKMEAD
STEWART DR
SANTA TRINITA
KERN AVE
LAWRENCE EXPWY
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
WOLFE RD
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S.F.
101
TO S J
PAGE MILL RD
OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S F
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

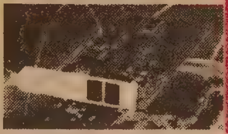

DURHAM RD.
PLEASANTON
MISSION CT
680
MISSION BLVD
N MILPITAS / WARM SPRINGS BLVD
880
SAN JOSE
237
CALAVERAS
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

CORPORATE P.O. FAX # (408)735-6800

MODEMS

INTERNAL DATA/FAX MODEM
DATA PORT™ 14.4/FAX



All-in-one high-speed V.32bis fax modem

Delivers the highest performance, reliability, and compatibility in the industry. Tested, proven the leader in connecting calls, even on noisy, impaired lines.

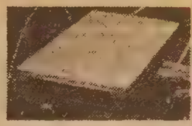
The DataPort 14.4/Fax Modem delivers data at line speeds up to 14,400 bps. That's fast! But combined with its advanced, optically-coupled phone line interface and V.42bis data compression and error correction, you gain effective data throughput of up to 57,600 bps—nearly 24 times faster than 2,400 bps modems—on "real world" phone lines! This high performance significantly saves long distance costs.

The DataPort 14.4/Fax Modem expands your personal computer into a fax workstation. You can send and receive faxes without ever waiting in line; and send presentation-quality faxes!
#1751420

AT&T

$249

EXTERNAL DATA/FAX MODEM
DATA PORT™ 14.4/FAX



All-in-one high-speed V.32bis fax modem

Delivers the highest performance, reliability, and compatibility in the industry. Tested and proven to be the leader in connecting calls, even on noisy, impaired lines.

The DataPort 14.4/Fax Modem delivers data at line speeds up to 14,400 bps. That's fast! But combined with its advanced, optically-coupled phone line interface and V.42bis data compression and error correction, you gain effective data throughput of up to 57,600 bps—nearly 24 times faster than 2,400 bps modems—on "real world" phone lines! This high performance significantly saves long distance costs.

The DataPort 14.4/Fax Modem expands your personal computer into a fax workstation. You can send and receive faxes without ever waiting in line; and send presentation-quality faxes!
#1751419

AT&T

$279.99

VIVA 14.4 EXTERNAL FAX/MODEM 14,400 BPS V.32 BIS

9600B Send/Receive
Fax 14,400BPS
Modem CPI
502402
#1704646

COMPUTER PERIPHERALS, INC

$189.99

14,400 BAUD INTERNAL FAX/MODEM

Internal 14,400 BPS Fax/Modem
V.42 • Winfax Software
#1729382

COMPUTER PERIPHERALS, INC

$159.99

2400/9600 FAX POCKET MODEM

2400B Modem
9600B Pocket Size Fax
AC/DC, CPI 504505
VIVA 2496P #1704679

COMPUTER PERIPHERALS, INC

$99.99

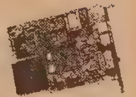
VIVA 14.4 POCKET FAX/MODEM

14.4/14.4 Pocket Fax/Modem
57,600BPS MAX
CPI 504107
#1809664

COMPUTER PERIPHERALS, INC

$289

VIVA DATA FAX INTERNAL FAX/MODEM



9600FAX SEND AND 4800 RECEIVE
WITH 2400B DATA MODE
CPI 504504 #1704691

COMPUTER PERIPHERALS, INC

$49.99

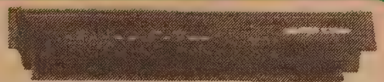
EXTERNAL DATA FAX MODEM

504509 EX VIVA DATA FAX
9600 SEND AND
4800 RECEIVE
2400 MODEM #1733150

COMPUTER PERIPHERALS, INC

$74.99

COURIER™



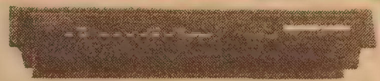
14,400 BAUD EXTERNAL HST DUAL STANDARD MODEM w/MNP1-5

US Robotics
The Intelligent Choice in Data Communications

US Robotics HST Dual
Standard Modems
14,400 Baud Courier
V.32BIS, V.32, V.42,
V.42BIS External
US Robotics #000093-0
#1639074

$799.95

COURIER™



14,400 BAUD EXTERNAL MODEM w/MNP1-5

US Robotics
The Intelligent Choice in Data Communications

US Robotics 14,400 Baud
Courier Modems
V.32BIS, V.32, V.42, V.42BIS
External MNP1-5
US Robotics #000094-0
#1639030

$499

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good thru September 13, 1993

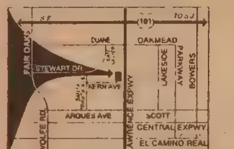
Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA
AND
MasterCard
ACCEPTED

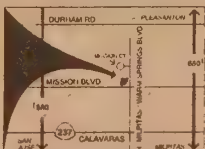
VISA MasterCard

HOURS
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

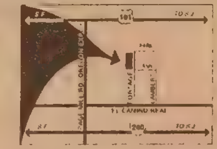
CORPORATE P.O. FAX # (408)735-6800



SUNNYVALE
1177 Kern Ave.
(408) 733-1770



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

MODEMS

PRACTICAL PERIPHERALS

PM14400FX INTERNAL FAX/MODEM

PROUDLY MADE IN THE U.S.A.

$209

V.32 BIS up to 57,600 BPS W/DATA Compression
V.42B 9600B Fax Send and Receive
#1667912

PRACTICAL PERIPHERALS

PM2400F INTERNAL 2400 MODEM 9600 SEND & 4800 RECEIVE FAX

PROUDLY MADE IN THE U.S.A.

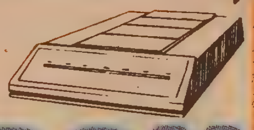
$69.99

V.42 SOFTWARE QUICK LINK II
#1741726

100%HAYES COMPATIBLE

PRACTICAL PERIPHERALS

PM2400F MINI EXTERNAL 2400 MODEM 9600 SEND & 4800 RECEIVE FAX



PROUDLY MADE IN THE U.S.A.

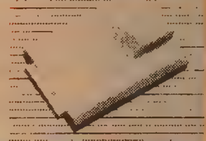
$89.99

V.42 SOFTWARE QUICK LINK II
#1741737

PRACTICAL PERIPHERALS

LIFETIME WARRANTY!

2400 MODEM 9600 SEND/4800 RECEIVE POCKET FAX



V.42 BIS SOFTWARE QUICK LINK WITH BATTERY #1741748

PROUDLY MADE IN THE U.S.A.

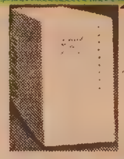
$119

100%HAYES COMPATIBLE

PRACTICAL PERIPHERALS

9600 FAX 9600 MODEM

PROUDLY MADE IN THE U.S.A.



$199

V.32 V.42 V.42 BIS • QUICK LINK 11
#1757770

PRACTICAL PERIPHERALS

LIFETIME WARRANTY!

14,400 MODEM 14,400 FAX

V.32, V.42 BIS MINI TOWER MODEM
14,400 DATA AND FAX
QUICK LINK II SOFTWARE
LIFETIME WARRANTY #1757781

PROUDLY MADE IN THE U.S.A.

$229

100%HAYES COMPATIBLE

FaxMe

PRACTICAL PERIPHERALS

Introducing the plug-in cartridge that turns an HP LaserJet printer into a plain paper receive FAX machine.
FaxMe turns your HP printer into a receive only fax machine. It is compatible with all Group III fax machines and will receive at 9,600, 4,800, or 2400 BPS. FaxMe runs without software and without a computer. Lifetime Warranty.
#1741771

PROUDLY MADE IN THE U.S.A.

$139.99

PRACTICAL PERIPHERALS

POCKET 14,000 MODEM 14,400 FAX

POCKET MODEM QUICK LINK
BATTERY PACK AND CASE
#1750430

PROUDLY MADE IN THE U.S.A.

$399

intel

Intel Internal Faxmodem 24/96i

200 bps Modem 9600 bps Fax

Make all the right connections. Intel connects you to the broadest range of modems and fax machines. Plus Intel gets you started with $107 worth of free on-line services. Put a new world of information at your fingertips. Pay bills electronically. Get the latest stock market report. All necessary communication and fax software is included as well as industry leading Intel technical support by phone. 24 hour fax and electronic bulletin board services #1805800

$69.99

intel

Intel External Faxmodem 14:4/14.4e

14,400 bps, V.42bis Modem/14,400 bps Fax

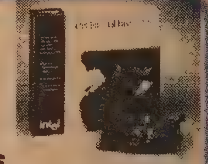
Make all the right connections. Intel connects you to the broadest range of modems and fax machines. Plus Intel gets you started with $107 worth of free on-line services. Put a new world of information at your fingertips. Pay bills electronically. Get the latest stock market report. All necessary communication and fax software is included as well as industry leading Intel technical support by phone. 24 hour fax and electronic bulletin board services
#1805811

$189

intel

Intel Internal Fax/Modem 144/144i

14,400 bps, V.42bis Modem/14,400 bps Fax



Intel gets you started with $107 worth of free on-line services. Pay bills electronically. Get the latest stock market report. All necessary communication and fax software is included as well as industry leading Intel technical support by phone. 24 hour fax and electronic bulletin board services. #1805822

$169.99

Home of Fast, Friendly, Courteous Service

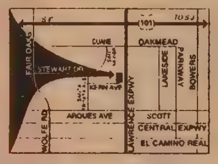
Fry's ELECTRONICS

Prices good thru September 13, 1993

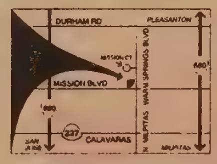
Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA
AND
MasterCard
ACCEPTED

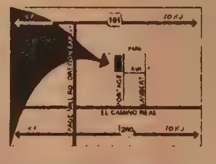
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM



SUNNYVALE
1177 Kern Ave.
(408) 733-1770



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

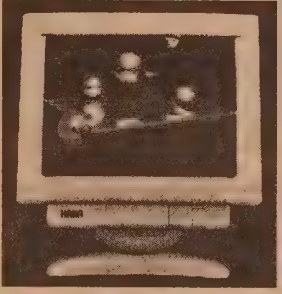


PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX # (408)735-6800

MONITORS

HANA

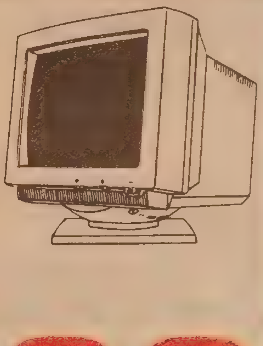


14 + 1 - 1024 X 768 .28 DOT PITCH NON-INTERLACED SVGA MONITOR EQUIVALENT TO 15" SIZE

1024 X 768
258 X 185
Display Area
72Hz Refresh
#1804234

$349.95

NEC

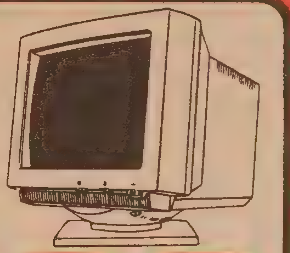


1024 X 768 NON-INTERLACED 14" VGA ANALOG FLAT SCREEN MONITOR

1024 X 768 • Analog
Flat Screen
Non-Interlaced
3FGE #1788091

$599

NEC



4FGE

1024 X 768 NON-INTERLACED 15" SUPER VGA MONITOR

1024 X 768 Non-Interlaced Flat Screen Monitor
4FGE #1641459

$699

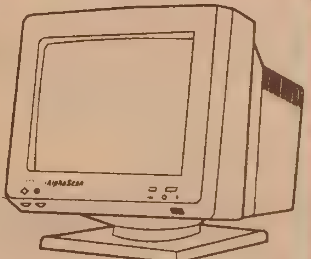
SONY.

1024 x 768 NON-INTERLACED 14" SVGA MONITOR

1024 X 768 72HZ
Non-Interlaced
110/220 Microprocessor Control
Model 1430
#1756388

$599

SAMPO AMERICA



1024 X 768 NON-INTERLACED 15" SUPER VGA MONITOR

1024 X 768 • Non-Interlaced
Flat Screen
INVAR Shadow Mask
70HZ Refresh VESA
15" Large Screen
SAMPO KDM-1566
#1691742

$499

Fry's ELECTRONICS

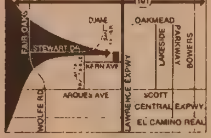
Home of Fast, Friendly, Courteous Service

Prices good thru September 13, 1993

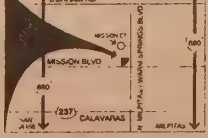
Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA AND MasterCard ACCEPTED

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM


101
FAIR OAKS
STEWART DR
DUANE
KERN AVE
OAKMEAD
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
WOLFE RD
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


DURHAM RD
PLEASANTON
MISSION CT
MISSION BLVD
880
680
237
CALAVARAS
WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

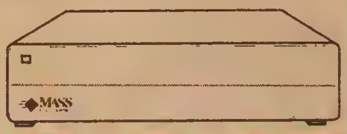
101
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX # (408)735-6800

MAC HARD DRIVES

MASS EXTERNAL 210MB HARD DRIVE



210MB EXTERNAL HARD DRIVE FOR MAC
15MS ACCESS
DD210 #1777905

MASS microsystems

$399.99

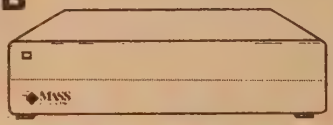
MASS FLOPTICAL 21 MAC

21MB FLOPTICAL DRIVE FOR MAC 80MS
FP21
#1777983

MASS microsystems

$379

MASS EXTERNAL 120MB HARD DRIVE



120MB EXTERNAL HARD DRIVE FOR MAC
15MS ACCESS
DD120 #1777891

MASS microsystems

$399

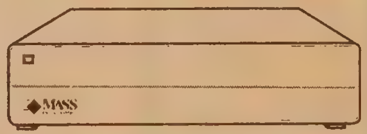
MASS EXTERNAL SYQUEST 105 MAC

105MB EXTERNAL SYQUEST FOR MACINTOSH
14.5MS ACCESS W/ SOFTWARE CARTRIDGE
DP105 #1796704

MASS microsystems

$799

210MB MAC EXTERNAL 2" HARD DRIVE



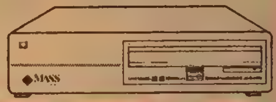
210MB EXTERNAL FOR MAC
15MS ACCESS
DD120P2 #1777927

MASS microsystems

$499

MASS EXTERNAL SYQUEST 44 MAC

44MB EXTERNAL SYQUEST FOR MACINTOSH
20MS ACCESS W/ SOFTWARE
DD01P #1777938



MASS microsystems

$479

MASS MICRO EXTERNAL 120MB 2"

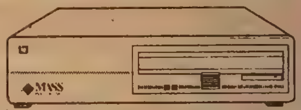
120MB EXTERNAL FOR MAC
15MS ACCESS • 2 X 4 . 7 X 7.9
Some Macs may require external power supply.
DD120P2 #1777916

MASS microsystems

$299

MASS EXTERNAL SYQUEST 88 MAC

R/R 44 AND 88MB CARTRIDGE
20MSEC ACCESS W/SOFTWARE
DP88C01 #1796748



MASS microsystems

$549

IOMEGA MAC TRANSPORTABLE BERNOULLI 90

- 18-msec effective access time
- Rugged Bernoulli Technology
- The right disk for the right job
- Reads and writes 90MB Bernoulli Disks, reads 44MB Bernoulli Disks

#1765070

IOMEGA®

$549

BERNOULLI MULTIDISK™ 150

Handles like a floppy, performs like a hard disk

- 150MB (300MB with included compression)
- 18-msec effective access time
- Rugged Bernoulli Technology
- The right disk for the right job
- Reads and writes 90MB Bernoulli Disks, reads 44MB Bernoulli Disks

#1765058

IOMEGA®

$799

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good thru September 13, 1993

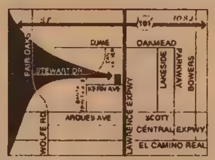
Limit Rights Reserved
Not Responsible For Typographical Errors

VISA
AND
MasterCard
ACCEPTED

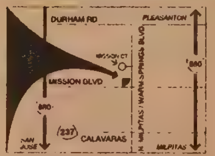
VISA
MasterCard

HOURS
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

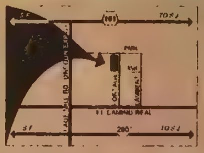
CORPORATE P.O. FAX # (408)735-6800


SF
101
TO SJ
FAIR OAKS
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
LAWRENCE EXPWY
WOLFE RD
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


DURHAM RD
PLEASANTON
MISSION CT
880
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
680
SAN JOSE
237
CALAVARAS
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700


SF
101
TO SJ
PAGE MILL RD
EL CAMINO REAL
280

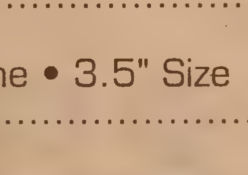
PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

SCSI HARD DRIVES

Maxtor

130MB SCSI HARD DRIVE • 15ms Access • 1" HT. 7120S #1660867	$199
213MB SCSI IDE HARD DRIVE • 15ms Average Access • 1" HT. 7213S #1735358	$269
240MB 3.5" SCSI HARD DRIVE • 15ms Access • 1"HT. 7245S #1802195	$279
345MB 3.5" SCSI HARD DRIVE • 14ms Access • 1" HT. 7345S #1807673	$439
549MB 3.5" SCSI HARD DRIVE • 8.5ms Access • 1" HT. 540S #1802173	$798
1.02 GIGABYTE 5.25" SCSI HARD DRIVE • Full Height P0-12S #1625686	$979
1.2 GIGABYTE SCSI 3.5"HARD DRIVE • 1/2 HT. 1240S #1802184	$1239
1.47 GIGABYTE 5.25" SCSI HARD DRIVE • Full Height P1-17S #1713969	$1299

Quantum™



170MB SCSI ELS HARD DRIVE • 17ms Access • 3.5" Size #1758519	$229
240MB SCSI IDE HARD DRIVE • Fast Access • 256K Cache • 3.5" Size #1758472	$269
525MB SCSI LPS HARD DRIVE • Fast Access • 256K Cache • 3.5" Size LPS525S #1802128	$659
1 GIGABYTE SCDI HARD DRIVE • Fast Access • 512K Cache • 3.5" Size PD1050S #1802139	$979

Home of Fast, Friendly, Courteous Service

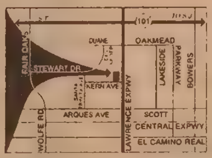
Fry's ELECTRONICS

Prices good thru September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA
AND
MasterCard
ACCEPTED

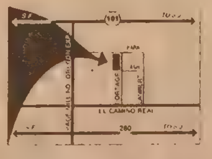
HOURS
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM


S.F.
101
TO S.J.
FAIR OAKS
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
LAWRENCE EXPWY
WOLFE RD
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

DURHAM RD
PLEASANTON
MISSION CT
WARM SPRINGS BLVD
680
MISSION BLVD
880
237
CALAVARAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
ASH
PORTAGE
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX # (408)735-6800

HARD DRIVES

Maxtor

245MB 3.5" IDE HARD DRIVE

$228

3.5" Format • 1" Height • 15ms Access
MXT-7245A #1759934

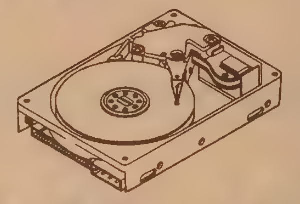
131MB IDE HARD DRIVE • 15ms Access
7131A #1803646.. **$179**

213MB 3.5" IDE HARD DRIVE • 15ms Access • 1" HT. • Form Factor
7213A #1694044.. **$218**

340MB 3.5" IDE HARD DRIVE • 15ms Access
7345A #1781762.. **$295**

540MB 3.5" IDE HARD DRIVE • 8.5ms Access • 1" HT.
540A #1802162.. **$798**

WESTERN DIGITAL
340MB 3.5" IDE HARD DRIVE



12 msec Access
AC2340 #1771644

$294

WESTERN DIGITAL
200MB 3.5" IDE HARD DRIVE
210MB FORMATTED CAPACITY

3.5" 1" Size
14 msec Fast Access
ACC2200 #1727232

$209

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good thru September 13, 1993

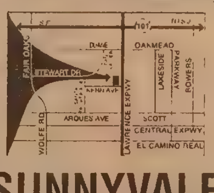
Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA
AND
MasterCard
ACCEPTED

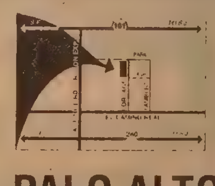
VISA

MasterCard

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM


S.F.
101
SAN JOSE
FAIR OAKS
STEWART DR
DUANE
OAKMEAD
LAKESIDE
PARKWAY
BOWERS
KERN AVE
LAWRENCE EXPWY
ARQUES AVE
SCOTT
CENTRAL EXPWY
WOLFE RD
EL CAMINO REAL

DURHAM RD
PLEASANTON
MISSION BLVD
WARM SPRINGS BLVD
680
880
237
CALAVARAS
SAN JOSE
MILPITAS


S.F.
101
EL CAMINO REAL
280

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX # (408)735-6800

HARD DRIVES

Quantum™ 240MB IDE HARD DRIVE

FAST ACCESS • 256K INTERNAL CACHE
LPS240A #1758449

$259

170MB IDE HARD DRIVE • 17ms Access • 32K Internal Cache #1758508........ **$205**

525MB IDE HARD DRIVE • Fast Access • 256K Cache #1802117........ **$659**

ST-351A-X 42MB IDE HARD DRIVE

Seagate

1" Drive 42MB • 28ms Access
#1647215

$119.95

SAMSUNG 120MB 3.5" IDE HARD DRIVE

3.5" Form Factor 1" Ht. • 16ms Average Access Time
SHD3062A #1708695

$159.95

255MB IDE HARD DRIVE
SHD-3122A
#1786011
$259

CONNER 255MB 3.5" IDE HARD DRIVE

3.5" Form Factor
12ms Super Fast • 1" HT.
Low Power Consumption
CP30254 #1795356

$258

170MB IDE HARD DRIVE • 17MS ACCESS • 32K CACHE CP30174E #1656815........ **$189**

540MB IDE HARD DRIVE • 10MS AVERAGE ACCESS 256K CACHE • CP30544 #1802210........ **$669**

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

Prices good thru September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

VISA AND MasterCard ACCEPTED

VISA
MasterCard

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

CORPORATE P.O. FAX # (408)735-6800

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

BACK-UP DRIVES

SyDOS
A Division of SyQuest Technology

PUMA 44MB PARALLEL W/1 CARTRIDGE Avg. Seek of 20ms, 8K Cache, Up to 4MB/min transfer, DOS and WIN #1716696 **$399**

PUMA 88MB PARALLEL W/1 CARTRIDGE Avg. Seek of 20ms, 32K Cache, Up to 4MB/min transfer, DOS and WIN #1716700 **$469**

88il 88MB INTERNAL W/8-BIT HOST AND 1 CARTRIDGE, Av. Seek of 20ms, 32K Cache, Support DOS and WIN #1768109 **$499**

88el 88MB EXTERNAL W/8-BIT HOST AND 1 CARTRIDGE, Av. Seek of 20ms, 32K Cache, Support DOS and WIN #1768109 **$549**

88i 88MB INTERNAL W/16-BIT HOST AND 1 CARTRIDGE Avg. Seek of 20ms, 32K Cache, Support DOS and WIN #1742299 **$679**

88e 88MB EXTERNAL W/16-BIT HOST AND 1 CARTRIDGE, Avg. Seek of 20ms, 32K Cache, Support DOS and Win #742303 **$749**

COLORADO MEMORY SYSTEMS INC.

JUMBO DJ-10 TAPE BACK-UP INTERNAL 40/60/120MB, Runs off Floppy Controller #1498817 **$139**

JUMBO DJ-20 80/120/250MB INTERNAL TAPE BACK-UP DRIVE, Uses DC-2000 Data Cartridge #1610068 **$188**

JT-10 TRAKKER EXTERNAL TAPE BACK-UP Uses Parallel Port Computer, Must Be IDE or SCSI #1740792 **$329**

JT-20 TRAKKER EXTERNAL TAPE BACK-UP Uses Parallel Port Computer, Must be IDE or SCSI #1740806 **$379**

POWERTAPE 2400 EXTERNAL 2.4 GIGABYTE BACK-UP SYSTEM W/SCSI CONTROLLER, 18MB/MIN NOVELL, NETWARE, LANTASTIC #1804050 **$1299**

SUMMIT™
MEMORY SYSTEMS INC.

SUMMIT EXPRESS SE120 INTERNAL 40/60/120MB TAPE BACK-UP WINDOWS DRV INCL. CENTRAL PONT SOFTWARE #1635575 **$138**

SUMMIT EXPRESS SE250 INTERNAL 80/120/250MB TAPE BACK-UP WINDOWS DRV INCL. CENTRAL PONT SOFTWARE #1635586 **$199**

SUMMIT SE305 CONTROLLER FOR SUMMIT SE305 DRIVE, 3 CONNECTOR IDE I/O CABLE 01-91720-01 #1784385 **$279**

IBM 250MB EXTERNAL TAPE BACK-UP

Data and power cables with software and tape.
Model TD632 #1780185

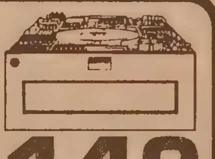
$349

AUTOBAHN 250MB TAPE BACK-UP

PARALLEL PORT PLUG-IN
CENTRAL POINT BACK-UP SOFTWARE
#1810082

$345

ARCHIVE 250MB TAPE BACK-UP



40/80/120/250MB Format
Internal Drive runs off floppy controller
Includes Software & Cables
Cartridge Sold Separately #1794791

$149

MEMOREX
COMPUTER SUPPLIES

250MB TAPE BACK-UP DRIVE

- DOS and Windows Compatible
- Fits in 5.25" or 3.5" Drive Bay
- Includes Free Formatted Tape Cartridge
- Two Year Warranty #1804223

FREE NORTON BACK-UP SOFTWARE $179 VALUE!

$198

Home of Fast, Friendly, Courteous Service

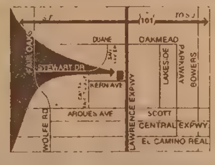
Fry's ELECTRONICS

Prices good thru September 13, 1993

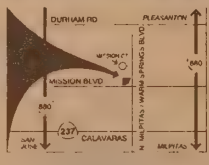
Limit Rights Reserved
Not Responsible For Typographical Errors

VISA
AND
MasterCard
ACCEPTED

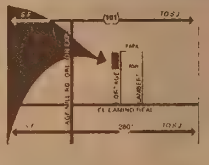
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
WOLFE RD
ARQUES AVE
LAWRENCE EXPWY
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


DURHAM RD
PLEASANTON
MISSION CT
MISSION BLVD
680
880
237
CALAVARAS
SAN JOSE
MILPITAS
N. MILPITAS / WARM SPRINGS BLVD.

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700


S.F.
101
TO S.J.
PARK
EL CAMINO REAL
280

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

CORPORATE P.O. FAX # (408)735-6800

CD-ROM

HITACHI

HEAVY DUTY DOUBLE SPEED INTERNAL CD-ROM

TRIPLE SAFEGUARD PROTECTION: Double Door Automatic Lens Cleaning • Sealed Chassis
260ms Access Time • 128KB Buffer
MPC, XA, Kodak Multi-session Photo CD Compatible
#1810347

2 YEAR PARTS & LABOR WARRANTY

$499

TEAC

DUAL-SPEED INTERNAL CD-ROM

256ms Dual Speed • 335KB Through-put
#1815087

$\$389^{99}$

MULTI-SPEED MEGA SAVINGS!

NEC INTERNAL CD-ROM

Dual spin drive optimizes speed by accessing video and sound at their different routes.
280ms average access time.
350KB transfer rate.
CDR84-1
#1785582

$449

TOSHIBA DUAL SPEED INTERNAL CD-ROM

SCSI CD-ROM • 200ms Access • 256K Cache
330KB/sec Transfer Rate • Multi-Speed
#1785618

$419

TEXEL

SCSI INTERNAL DUAL SPEED CD-ROM DRIVE

265ms • Kodak Photo CD Compatible
Requires Trantor T-130 SCSI
DM3024
#1770300

$369

SONY.

INTERNAL CD-ROM

64KB BUFFER
550ms Access
150KB Transfer Rate
Tray Load • No Caddy Required
#1812925

$169

REVEAL

INTERNAL CD-ROM KIT

Internal CD-ROM
390ms Average AccessTime
Includes Interface, Drivers & Cables
#1796508

Includes Free Installation Video

$189

REVEAL

INTERNAL CD-ROM DRIVE

With its high-speed design and precision optics, Reveal's CD110 internal CD-ROM drive gives you full access to today's most advanced multi-media programs. Including ones for education, entertainment, business management and health, with state-of-the art effects such as action video clips, lively 3-D animations, brilliant color photographs and more. And with the CD110's fast 350ms data access time and 150KB data transfer rate, your programs will move along smoothly and quickly. You can also use the drive to play your favorite CDs while you work, or even to view your own photographs, because the CD110 is multi-session Photo-CD ready! Just have your pictures placed on CD by your local Kodak processing center. Includes controller card, cables, how-to video and instruction booklet.
CD110
#1811407

$\$279^{99}$

MICROSOLUTION MOBILE MEDIA

BACKPAK EXTERNAL CD-ROM

NO INTERFACE REQUIRED

External Portable CD-ROM Connects To Parallel Port
150KB Transfer Rate
#1798728

$379

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

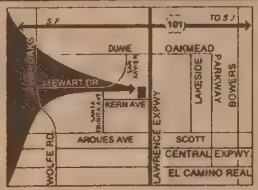
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For Typographical Errors

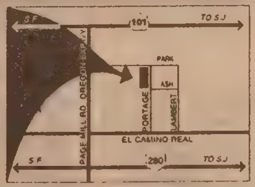
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

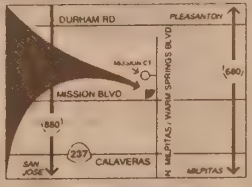
CORPORATE P.O. FAX # (408)735-6800


S.F
101
TO S.J
DUANE
OAKMEAD
SAN XAVIER
STEWART DR
SANTA TRINITA AVE
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800


S.F
101
TO S.J
PARK
ASH
PORTAGE
LAMBERT
PAGE MILL RD OREGON EXPWY
EL CAMINO REAL
S.F
280
TO S.J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD
PLEASANTON
MISSION CT
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
680
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

YOUR BEST BUYS ARE ALWAYS AT FRY'S!

SONY® THE ONE AND ONLY.

3.5" DISKETTES

Item	Price
MFD-2HD 3.5" DS/HD #121270	$10.49
MFD-2DD 3.5" DS/DD #121269	$7.49
MFD-2HD 3.5" DS/HD FORMATTED #1551211	$10.97
MFD-2DD 3.5" DS/DD FORMATTED #1551200	$8.29

SONY® DATA CARTRIDGES

Item	Price
QG112M 8mm Tape 2.3 Gigabyte #1545599	$13.95
QD600A 60MB #1524581	$18.95
QD6150 150MB #1524640	$19.99
QD2040 40MB #1524628	$13.99
DG60M 4mm Tape 1.3 Gigabyte #1637430	$14.49
DG90M 4mm Tape #1637441	$16.99
QD2080 80MB #1650842	$17.99
QD2120 120MB #1650853	$16.99
QD6250 250MB #1650989	$27.99

Parana® SUPPLIES CORPORATION

PARANA PRINTER RIBBONS MAKE A GREAT IMPRESSION.™

FOR EPSON

Item	Price
205S Black. For Model LQ2550 #1611874	$4.99
201S Black. For Models FX80, MX-80, FX800, FX80 #1611874	$2.99
203S Black. For Models LQ510, LQ850 #1595664	$2.99

FOR Panasonic Office Automation

Item	Price
382S Black. For Models 1123, 1124, 1124i #1595723	$5.99
383S Black. For Models 1624, 1695 #1647352	$5.95
385S Black. For Model KX-P2180 #1753226	$6.95

FOR CITIZEN

Item	Price
131S Black. For Models 12D, 180D, GSX-140, GSX-200 #1595251	$4.95
132S Four Color. For Model GSX-140 #1662733	$14.95

FOR IMAGEWRITER II

Item	Price
101S Black #1595240	$2.99
102S Color #1662722	$7.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

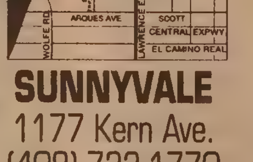
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA
MasterCard
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX# (408) 735-6800


S.F.
101
TO S.J.
FAIR OAKS
DUANE
OAKMEAD
STEWART DR.
KERN AVE
SANTA
LAWRENCE EXPWY.
LAKESIDE
PARKWAY
BOWERS
WOLFE RD.
ARQUES AVE
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

S.F.
101
TO S.J.
PAGE MILL RD. ONE TON EXPWY
PARK
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6060

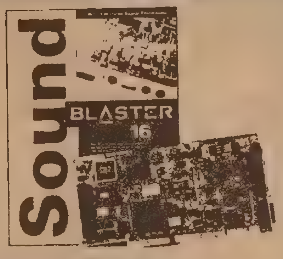
DURHAM RD.
PLEASANTON
MISSION CT.
680
MISSION BLVD.
WARM SPRINGS BLVD.
880
237
CALAVERAS
SAN JOSE
MILPITAS
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS(3797)
(510) 770-3700

MULTIMEDIA

CREATIVE
CREATIVE LABS, INC.

SOUND BLASTER 16


Sound
BLASTER 16

ADVANCED SIGNAL PROCESSING

- Complete Programmable Advanced Signal Processing
- Real Time Hardware Compression & Decompression
- MPC 401 UART Mode
- Includes HSC Interactive, PC Animate Pro & Microphone

#1751718

$79

CREATIVE
CREATIVE LABS, INC.

SOUND BLASTER™ DELUXE

Sound
BLASTER

- 11-Voice FM Music Synthesizer
- 8-bit Digitized Voice Channel Input and Output
- Joystick Port
- Built-In Power Amplifier
- Free Game Software:
INDY 500 and Lemings
- Windows 3.1 Compatible

#1768844

$199

CREATIVE
CREATIVE LABS, INC.

VIDEO BLASTER™

VIDEO BLASTER

Display full-motion video in a window, overlay computer text and graphics on video. Freeze, store, manipulate, and import images from VCR's, video discs, video cameras, or any video source. Digital analog sound mixer and programmable volume controls. Bundled software: Video Kit utilities including JPEG compression Macromedia Action! Presentation package, Tempra graphics and multimedia authoring system from Mathematica.
#1697483

$309

PROFESSIONAL PRESENTATION PERFORMANCE

PRO 16 MULTIMEDIA SYSTEM

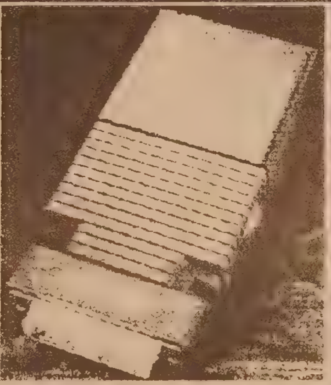
King's Quest V

Pro AUDIO Spectrum 16
NEC Multi Speed SCSI Multimedia CD-ROM
Average access 280ms • Sustained data transfer 300kB/sec
Burst rate 1.5MB • 64kB buffer
MACROMIND ACTION (Multimedia Presentation Software)
Windows 3.1 • Lotus 1-2-3 for Windows
Comptons M.M. Encyclopedia
#1679548

MEDIA VISION

$629

AUDIO PORT



- Perfect For Mobile Presentation
- Connects to standard Parallel Port
- Jacks For Microphone & Auxiliary Speakers
- 2-22KHz Sampling Rate
- Internal Battery Or +6VDC Adapter Included
- Wolfenstein 3D, Monopoly Deluxe
- Lotus Sound, Pocket recorder, Talking Calendar
- Free Labtech Headphones

#1679571

MEDIA VISION

$84

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

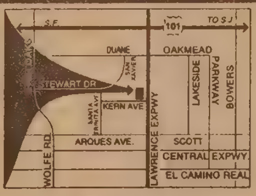
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

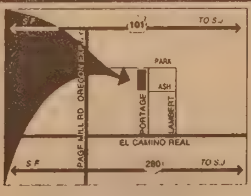
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND
MASTERCARD

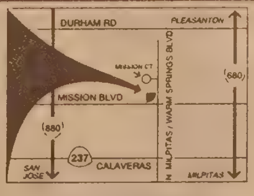
CORPORATE P.O. FAX #


S.F.
101
TO S.J
DUANE
OAKMEAD
SAN XAVIER
STEWART DR
SANTA ERMITA AVE
KERN AVE
LAWRENCE EXPWY
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
SCOTT
CENTRAL EXPWY.
WOLFE RD.
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800


S.F.
101
TO S.J
OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
PAGE MILL RD
EL CAMINO REAL
S.F
280
TO S.J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

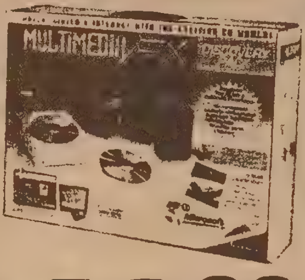

DURHAM RD
PLEASANTON
MISSION CT
680
MISSION BLVD
N. MILPITAS / WARM SPRINGS BLVD
880
237
CALAVERAS
SAN JOSE
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

MULTIMEDIA

REVEAL

MULTIMEDIA FX DISCOVERY PACK


MULTIMEDIA FX
DISCOVERY

DOUBLE SPEED CD-ROM DRIVE
- 540MB disk capacity
- 300KB data transfer rate
- 320ms access time
- Photo CD multi-session ready

SOUND FX PLUS SOUND CARD
SOUND FX CARD SPEAKERS
CD TITLES INCLUDED:
- Multimedia Encyclopedia
- MS Multimedia Pack For Windows 3.1

MM040 #1811441

$349.99

REVEAL

MULTIMEDIA FX 16-BIT SUPER PACK

Double Speed CD-ROM
300k Data Tranfer Rate • 329ms Access Time.
Photo CD Multi-session Ready.
SoundFX Pro 16EMC Sound Card
16-Bit Stereo Record & Playback.
100% Compatible with Sound Blaster,
Adlib & Microsoft Sound System.
AT CD-ROM Interface
Speaker System • CD-ROM Titles Included:
Software Toolworks Multimedia Encyclopedia
Where In The World Is Carmen San Diego?
MS Works Macromedia Action LE 25 For Windows
Authorware Star LE Secret Of Monkey Island
Secret Weapon Of The Luftwaffe
LOOM • MS Multimedia Pack For Windows
MM200
#1811485

$559

REVEAL

INTERNAL CD-ROM DRIVE

POPULAR CDs INSIDE!

Internal CD-ROM drive; 540MB capacity, 350ms access time, 150KB data transfer rate. Multi-session Photo CD ready. Includes, host adapter, cables and installation video. Bundled with Multimedia Encyclopedia, The Animals, Mavis Beacon Teaches Typing, World Atlas, U.S. Atlas. Chessmaster 3000, Macromedia Action, Clip Media, Where In The World Is Carmen San Diego, LOOM, The Secret Of Monkey Island and Secret Weapons Of The Luftwaffe software.

CD120 #1811418

$349.99

Microsoft Windows Sound System

Microsoft
WINDOWS
SOUND SYSTEM

Make a sound investment to increase your productivity! You can hear spreadsheet numbers read back to you annotate documents with sounds and voice messages, even execute commands simply by speaking to your computer. Designed for business, this audio software and hardware package for the Windows Operating system version 3.12 will help you work faster and smarter!

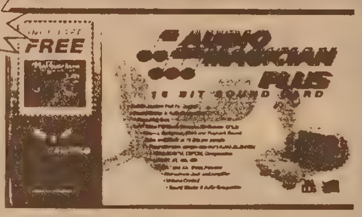
Includes: 16 Bit Audio Card
Dual Media Software
Microphone • Headphones
#1742624

$219

CALYPSO

AUDIO MAGICIAN PLUS 16-BIT SOUND CARD

16 BITS FOR THE PRICE OF AN 8 BIT!


FREE
AUDIO MAGICIAN PLUS
16 BIT SOUND CARD

SOUND BLASTER & AD-LIB COMPATIBLE

Microphone Jack • Game Port
Audio Recorder • Audio Reminder,
Talking Clock,
Talking Calculator,
Audio Clip Library,
Timer & Stopwatch
#1811784

CALYPSO PRODUCTS INC.

$99.99

META MULTIMEDIA WONDER CARD!

CALYPSO

PC VISION TTX

Turn your PC into the Multimedia Computer of the 90's

- Super VGA • Video Capture 16-Bit Sound
- Television & Teletext on One Card

Access USA Today and complete Stock Market encoded within Action 36 TV signal. Works with cable, broadcast or satellite input.
#1811865

CALYPSO PRODUCTS INC.

NO FEATURE CONNECTOR REQUIRED

$499.99

16,777,216 COLORS, 307,200 BYTES TRANFER RATE, 44,000 SAMPLES PER SECOND.

WINSTORM CD-ROM MULTIMEDIA UPGRADE KIT

WinStorm Multimedia Display Adapter • Double Speed CD-ROM
Driver Software • Bracket & Cables • User Manuals
Compton's Multimedia Encyclopedia
Kodak's Photo CD Access Software & Photo Sampler
Where In The World Is Carmen San Diego Deluxe
Asymetrix's Multimedia Make Your Point
Animotion's MCSMusicRack
Midisoft's Music Library
#1776889

SIGMA DESIGNS

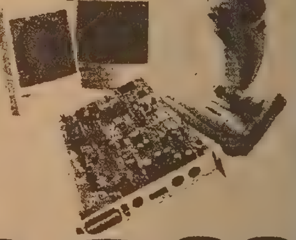
PRICE BREAKTROUGH

$699

Bondwell®

SOUND MACHINE

A Complete PC Sound Kit



- **A 100% Sound Blaster Compatible Sound Card**
- An Ergonomically Designed Joystick
- A Pair of High Performance PC Speakers
- Bundled Software: VOXKIT Voice Utilities Talking Parrot • FM Inteligent Organ Jukebox for Windows 3.1 3 game software

#1750658

$99.99

Home of Fast, Friendly, Courteous Service

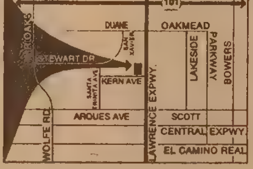
Fry's ELECTRONICS

Prices good through September 13, 1993

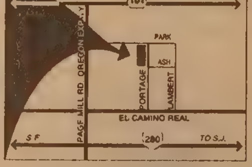
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

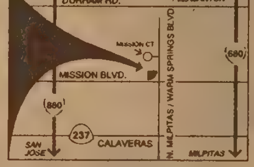
VISA AND MASTERCARD


S.F.
101
TO S.J.
DUANE
OAKMEAD
STEWART DR.
SAN XAVIER
KERN AVE
SANTA TRINITA AVE
LAWRENCE EXPWY.
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE
SCOTT
CENTRAL EXPWY.
EL CAMINO REAL
WOLFE RD.

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S.F.
101
TO S.J.
OREGON EXPWY
PAGE MILL RD
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000


DURHAM RD.
PLEASANTON
MISSION CT
680
MISSION BLVD.
880
SAN JOSE
237
CALAVERAS
N. MILPITAS / WARM SPRINGS BLVD
MILPITAS

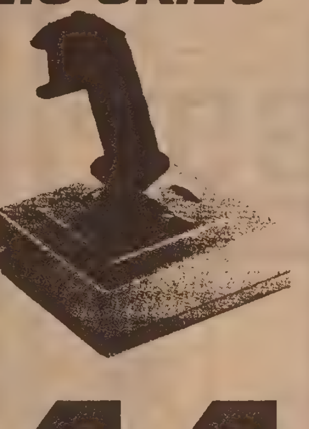
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)

CORPORATE P.O. FAX # (408)735-6800 (415) 496-6044 (510) 770-3700

MULTIMEDIA ACCESSORIES

FLY THE ELECTRONIC SKIES

FlightStick



#1 SELLING JOYSTICK

- **ULTIMATE CONTROL**
  Has total 360 degree cursor control
- **ADDED THROTTLE CONTROL ON IBM PC MODELS**
  Gives you better speed control
- **DUAL AXIS TRIM CONTROLS**
- **LINEAR POTENTIOMETERS**
  Rated at 4 million life cycles

#1704277

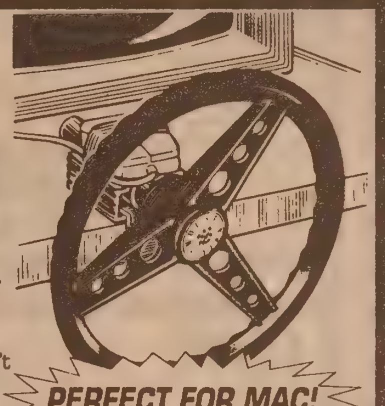
CH products

CH GAME CARD III AUTOMATIC
#1740666
$39⁹⁹

$44

COLORADO SPECTRUM

MOUSE•WHEEL



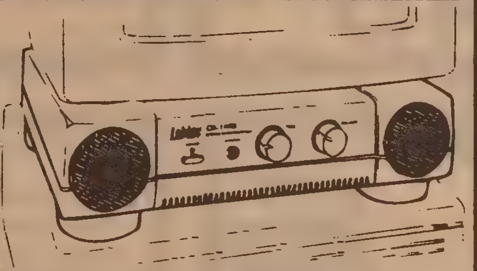
PERFECT FOR MAC!

Converts your mouse into a realistic race car steering wheel! Adds a exciting dimension to your computer driving experience... a dimension that keyboard or mouse alone can't provide. Creatively designed accessory turns any mechanical (ball-type) mouse into a realistic race car steering wheel! Included *Stunts*, the standard-setting stunt driving simulation software from Broderbund!
#1737486

$34⁹⁹

Labtec

SHIELDED SPEAKER SYSTEM w/SUBWOOFER



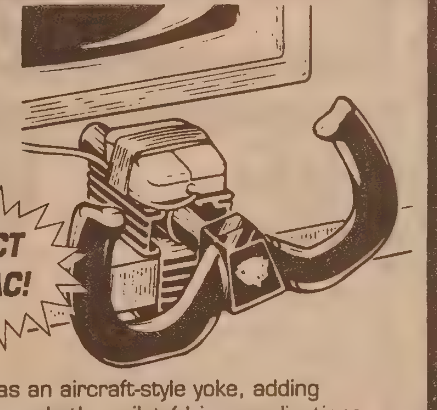
- Two 1 1/2" Speakers on frontfor mid and high frequencies
- 5 1/2" subwoofer system
- Unique space-saving design
- Two RCA input jacks
- Volume/Tone control
- DC in adapter jack

Model CS-1000
#1717963

$99⁹⁹

COLORADO SPECTRUM

THE MOUSE YOKE



PERFECT FOR MAC!

The Mouse Yoke allows any existing mechanical (ball-type) mouse to function as an aircraft-style yoke, adding a great deal of realism to flight simulation and other pilot/driver applications. The Mouse Yoke may be used with almost any program that supports the use of a mouse for directional control.
#1706718

$29⁹⁹

---

labtec MULTIMEDIA ACCESSORIES

AD-4 AC ADAPTER **$8⁹⁵**
FOR USE WITH LABTEC SPEAKERS
#1672161

AM-22 MICROPHONE **$9⁹⁹**
600 OHM MICROPHONE FOR VOICE INPUT TO COMPUTERS #1707719

C-12 HEADSET **$12⁹⁹**
FOR USE WITH VOICE RECOGNITION SOFTWARE AND CARDS #1795264

LT-110 AC HEADPHONES **$9⁹⁹**
MIDSIZE DIGITAL HEADPHONES FOR USE WITH ANY SOUND CARD #1711912

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

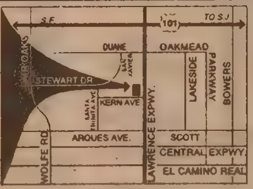
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

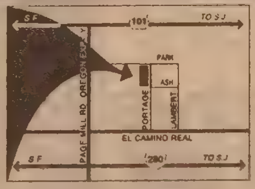
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA MasterCard
VISA AND MASTERCARD

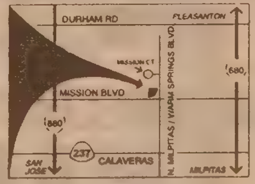
CORPORATE P.O. FAX # (408)735-6800


S.F.
101
TO S.J
DUANE
OAKMEAD
SAN XAVIER
STEWART DR
SANTA PAULITA AVE
KERN AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
SCOTT
CENTRAL EXPWY
EL CAMINO REAL
WOLFE RD.
LAWRENCE EXPWY.

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S F
101
TO S J
PARK
ASH
PORTAGE
LAMBERT
PAGE MILL RD
OREGON EXPY
EL CAMINO REAL
S F
280
TO S.J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD
PLEASANTON
MISSION CT
MISSION BLVD
680
880
237
CALAVERAS
SAN JOSE
N. MILPITAS / WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

BACK TO SCHOOL SAVINGS!

Microsoft Publisher 2.0 For Windows

Publisher gives you the power of a full-featured desktop publishing program and the tools to create publications in just a few easy steps. The interactive PageWizard™ design assistant helps you get started. Whether you're creating a newsletter, brochure, flyer, or your own unique communication piece, the steps are always easy, and the results are always professional.

$99⁹⁵

IBM
#1812497

DOUBLE TOOLS FOR DOUBLE SPACE

"Don't Compress Without It!"

DoubleTools adds 50+ powerful features to DOS 6.0's DoubleSpace compression. Extensive graphic displays, Rescue Tools and Windows interface make DoubleTools a must for all DOS 6.0 users! MRCI and DoubleSpace compatible.

addstor **$69⁹⁵**

IBM
#1801585

Lotus 1-2-3 Release 4.0

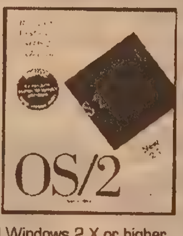
For Windows Upgrade

The Best Spreadsheet To Keep Tabs On Your Work! 1-2-3 Release 4 For Windows sets a new standard in usability, performance and power! Redesigned to make every spreadsheet task easier for people working on their own or in a group. Superior compatibilty for DOS users moving to Windows.

Lotus **$98⁹⁵**

IBM
#1800551

IBM OS/2 2.1 UPGRADE



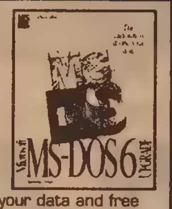
A better DOS than DOS, a better Windows than Windows and a better operating system than the rest of them.

Now you can upgrade from old DOS 1.X and Windows 2.X or higher to OS/2 2.1 for less money.

$98⁹⁵

IBM
#1804902

Microsoft MS-DOS 6 Upgrade

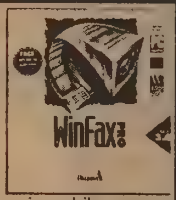


Introducing the Microsoft MS-DOS 6 upgrade, which makes it easy to double the size of your hard disk and do much more. You also get features that protect your data and free more memory for your MS-DOS based applications. Plus, integration of MS-DOS 6 with the Microsoft Windows operating system means the MS-DOS 6 Upgrade is a must-have for users of Windows!

$49⁹⁵

IBM
#1771460

WINFAX PRO



The Fax Software for Windows

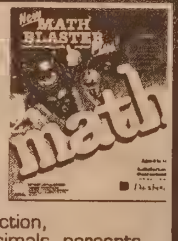
With WINFAX PRO you can send a fax from any Windows 3.0 application with just a few clicks of a mouse. Incoming faxes are even easier while you continue working, WINFAX PRO receives them in the background with no interruption.

DELRINA **$79⁹⁵**

IBM
#1611737

Davidson.

MATH BLASTER Plus!



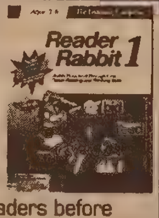
New Math Blaster Plus rockets into a new dimension with cosmic new activities and graphics, including an arcade style game which is out of this world. It covers addition, subtraction, multiplication, division, fractions, decimals, percents and teaches over 750 math facts and problem solving skills.

$32⁹⁵

IBM
#23283

The Learning Company

Reader Rabbit 1

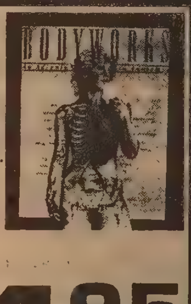


In this time-tested classic, Reader Rabbit transforms pre-readers into early readers before your very eyes. Feel their excitement as they read and spell on their own!

$36⁹⁵

IBM
#152705

BODYWORKS

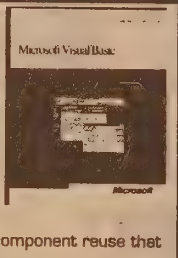


It's an adventure in anatomy! Colorful, comprehensive computer graphics guide you on a journey through the body. With its vast database, BODYWORKS lets you study specific areas from head to toe.

$44⁹⁵

IBM
#1641323

Microsoft VISUAL BASIC 3.0



Nothing helps you solve problems faster than the Microsoft Visual Basic programming system. Whether your challenges involve application automation, workgroup data flow, client-server development, or executive information systems, you'll find the versatile language, access to data, and advanced component reuse that you need to build custom solutions quickly.

$139⁹⁵

IBM
#1801563

DINOSAUR ADVENTURE

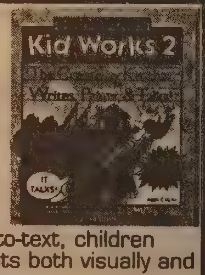
DINOSAUR ADVENTURE is a new type of educational software that is a different adventure in learning each time you use it. DINOSAUR ADVENTURE encourages intellectual discovery as you choose the path of your adventure through time and space, learning about the history and habits of some of the most fascinating creatures that ever lived: THE DINOSAUR.

Knowledge Adventure Inc. **$32⁹⁵**

IBM
#1810749

Davidson.

Kid Works 2



Kid Works 2 combines a wordprocessor, point and advanced text-to-speech technology all in one. With the ability to convert text-to-pictures and pictures-to-text, children learn to express their thoughts both visually and in writing.

$35⁹⁵

IBM
#1740138

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

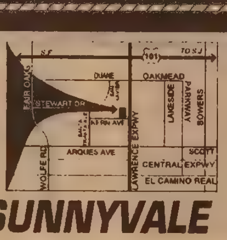
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

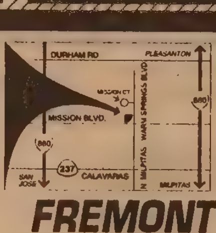
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

CORPORATE P.O. FAX #

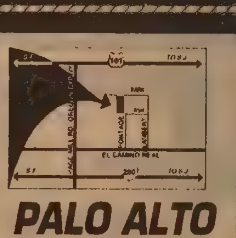
MasterCard
VISA
VISA AND MASTERCARD ACCEPTED



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

YOUR BEST SOURCE FOR THE HOTTEST COMPUTER BOOKS!

THE WHOLE INTERNET USERS GUIDE & CATALOG

This book will help you to unlock Internet's resources. It is a complete user's guide to the Internet, covering everything from the basics like electronic mail and newsgroups to the newest developments. A large part of the book tells you how to find the resources you want. This is the first book to cover the Internet's new "research librarians." Gopher WAIS and the World wide Web. There are important new tools that help you search the Net's resources by topic.

$\$19^{95}$

#1745694

DOS FOR DUMMIES 2$^{\text{ND}}$ EDITION BUNDLE PACK

DOS For Dummies, the #1 bestselling computer book for beginners, is now back in a completely revised and updated 2nd Edition. Bigger, better, and dumber than ever, DOS For Dummies, 2nd Edition contains new and more indepth coverage on topics requested by our loyal readers.

$\$14^{95}$

#1782877

THE INTERNET COMPANION

Welcome to Internet, the global web of computer networks reaching millions of people all over the world. From the mundane to the technical, the numorous to the scientific, the Internet is an open door to the latest information on medicine, environmentalism, sports, politics, social issues, education and much more.

$\$9^{49}$

#1763023

HOW COMPUTERS WORK

Whatever your age and your past computer experience...you'll love discovering what goes on inside a personal computer with the expert help of Ron White and PC/Computing's How Computers Work.

#1753592

$\$19^{95}$

WINDOWS FOR DUMMIES

You thought Windows was supposed to be easy, didn't you? Now it can be with Windows For Dummies, a lighthearted yet informative guide to using Microsoft Windows.

$\$14^{99}$

#1763274

MACS FOR DUMMIES

You thought the Macintosh was supposed to be easy, didn't you? That was before you found out there were dozens of different models... before they started lobbing terms like ROM and virtual memory at you... and before the Mac started making funny beeps.

$\$14^{95}$

#1733312

USING MS-DOS 6 SPECIAL EDITION

Using MS-DOS 6 shows you how to use all the new DOS features. Double the size of your hard disk with DoubleSpace. Manage memory better with MemMaker. Share information with other PCs using Interlink. Step-by-step lessons introduce you to the various filemanagement tasks you can perform, such as copying, comparing, moving, and changing attributes.

$\$25^{95}$

#1778766

PROGRAMMING WINDOWS 3.1 3$^{\text{RD}}$ EDITION

Programming Windows 3.1. The most authoritative, example packed and thorough resource for programmers writing applications for the Microsoft Windows operating system.

#1703195

$\$43^{49}$

USING WORD FOR WINDOWS SPECIAL EDITION

Put a sensational word processing program to work with Que's Using Word for Windows 2, Special Edition! This information packed edition walks you through the dynamic features and functions of Word for Windows 2- and gives you the key to considerable word processing power.

#1672699

$\$24^{99}$

The Complete PC Upgrade & Maintenance Guide Special Edition

Gain the confidence to do it yourself. This book gives you the skills to disassemble your PC, identify components, and make the purchase decisions that are right for you.

#1769627

$\$25^{95}$

INSIDE WINDOWS NT

Whether you're programming for Windows NT or making decisions about how to proceed into the future of personal computing, Inside Windows NT is a valuable, authoritative introduction to Microsoft's powerful new operating system.

#1753617

$\$21^{49}$

Running Microsoft Excel 4 For Windows 3rd Edition

Here's the bestselling book that offers the most complete and in-depth coverage of Microsoft's award-winning spreadsheet program- now completely updated for version 4. Unparalleled in its depth and breadth. Running Microsoft Excel 4 is the primary source of information and advice for Microsoft Excel users at all levels.

#1719530

$\$25^{95}$

UNIX IN A NUTSHELL 2$^{\text{ND}}$ EDITION

If you currently use either SVR3 or SVR4 or are planning to in the future, you'll want this book. And, if you're a Sun user facing the transition to Solaris, you'll want this book. UNIX in a Nutshell is the most comprehensive quick reference on the market, a must for any UNIX user.

#1778722

$\$8^{49}$

TCP / IP NETWORK ADMINISTRATION

TCP/IP Network Administration belongs on every system administrator's desk. It describes how to set up and administer a network of UNIX systems using the TCP/IP protocols. We take a practical approach on how to put your systems on the net (whether that means a LAN or the world-wide Internet) and keep them running. Even if your system isn't on a network now, it should be-and, within a year or two, it probably will be.

#1745535

$\$23^{95}$

USING WORDPERFECT 5.2 FOR WINDOWS SPECIAL EDITION

Here's your guide to impressive word processing results! This proven- and popular- combination of hands-on tutorial and reference material makes high-productivity word processing effortless with this latest, even better Wordperfect for Windows!

#1766635

$\$25^{95}$

WINDOWS 3.1 SECRETS 2$^{\text{ND}}$ EDITION	#1703450	$\$34^{89}$
WORD PERFECT FOR DUMMIES	#1745753	$\$13^{49}$
PC WORLD'S MICROSOFT ACCESS BIBLE W/DISK	#1793251	$\$31^{95}$
PCs FOR DUMMIES	#1723537	$\$14^{95}$
WINDOWS 3.1 BIBLE	#1763296	$\$24^{49}$
DOS 6.0 GUIDE 5$^{\text{TH}}$ EDITION	#1778319	$\$21^{49}$
MICROSOFT WORD FOR WINDOWS STEP BY STEP	#1696703	$\$26^{19}$
EXCEL FOR DUMMIES	#1766325	$\$14^{95}$
THE MACINTOSH BIBLE 4$^{\text{TH}}$ EDITION W/DISK	#1748583	$\$39^{95}$
COMPLETE GUIDE TO MICROSOFT EXCEL MACROS 2$^{\text{ND}}$ EDITION	#1766277	$\$25^{95}$

Fry's ELECTRONICS

Home of Fast, Friendly, Courteous Service

Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

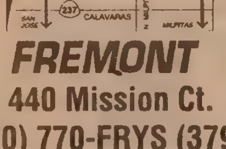
STORE HOURS:
MON-FRI 8AM-9PM
SATURDAY 9AM-8PM
SUNDAY 9AM-7PM

MasterCard
VISA
VISA AND MASTERCARD ACCEPTED

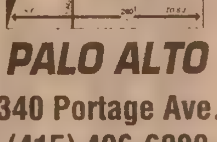
101
TO S.J.
DUANE
OAKMEAD
STEWART DR
ARQUES AVE
WOLFE RD
LAWRENCE EXPWY
LAKESIDE
PARKWAY
BOWERS
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770

CORPORATE P.O. FAX # (408)735-6800



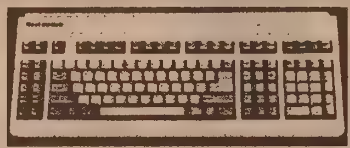
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

INCREDIBLE INPUT INVESTMENTS
KEYBOARDS & POINTING DEVICES

MAXIMIZE PRODUCTIVITY WITH Maxi Switch



ProKEY 124
124-KEY KEYBOARD

$89.99

ELIMINATES MANY REPETITIVE MOTIONS
Fully Programmable, Remapable and Versatile. #1756931

QTRONIX
INNOVATION & INTEGRATION

QMAX 101-KEY KEYBOARD

High Quality Rubber Membrane Technology
Switch Selectable for PC/XT or AT
Tactile Key Stroke • Auto Repeat
#1747102

$15.99

TRACKBALL KEYBOARD

- Full 101-Key Keyboard with Tactile Feel
- Fully Microsoft Compatible
- Opto-Mechanical Technology for Precise Cursor Tracking
- 20 - 6400 CPI • Serial Version

#1516018

$79.99

QTRONIX BLACK 22-KEY KEYPAD

PC/AT Compatible
12 Function Keys
Shift & Function Keys • Black
QX-022HB #1735462

$49.99

QTRONIX EXPANDED 32-KEY KEYPAD

PC/AT Compatible
Perfect For Notebooks
QX-032 #1735484

$59.99

ANTEC
Where Designing is a Science

BLACK 101-KEY KEYBOARD

AT/XT Compatible
By Antech#1780738

$49.99

Mtek

104-KEY TACTILE KEYBOARD

WITH THE ORIGINAL "CLICK"
#1471858

$59.95

MICROSPEED

101-KEY KEYBOARD

For ATs, PS/2, Laptops, and notebooks. Includes adapter.
#1796379

$44.99

"GET THE CLICK" FOCUS FK-8000
101-KEY AT KEYBOARD

Calculator Built-In • IBM Compatible
#1703760

$59.99

GET THE CLICK!
SUNTOUCH
101-KEY KEYBOARD

FEATURING ALPS KEY SWITCHES
SIIG #1810750

$59.99

GET THE CLICK!
SUNTOUCH JR.
101-KEY KEYBOARD

FULL FUNCTION AND SPACING OF 101 KEY KEYBOARD IN A REDUCED FOOTPRINT
SIIG #1814961

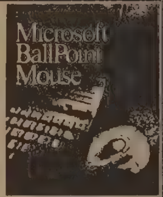
$69.99

Microsoft Mouse

Breakthrough ergonomic research and innovative features make the Microsoft Mouse the ultimate pointing device for the Windows operating system. Hold the mouse in either hand with equal comfort and support. Exciting features include: Snap-To, Screen Wrap, Locate, Magnify, Orientation and Meet The Mouse.
#1794171

$79.99

NO SURFACE REQUIRED



Microsoft Ballpoint Mouse

w/Trival Pursuit For Windows

400 DPI • Set Mouse Variables with control Panel in Windows or DOS. Compatibility?... No Question!
#1749333

$119.99

MOUSEMAN™
PROGRAMMABLE 3 BUTTON MOUSE

Ergonomic Design • 400 DPI
Total Microsoft Compatibility
Serial & PS/2 Connectors
Fully Programmable
#1559529

LOGITECH

$69.99

TRACKMAN™ PORTABLE

Turns Any Space Into A Workspace.
Small, lightweight, ergonomic.
For right or left handed use.
100% Microsoft™ compatible.
#1620256

LOGITECH

$94.95

MOUSE SYSTEMS

2-BUTTON MOUSE

Microsoft Compatible
350DPI Ultra-Resolution
Balistic Acceleration
#1810819

$24.99

MOUSE SYSTEMS

New Point Portable Trackball for Laptops & Notebooks

2 button opto-mechancial input device.
High 200 CPI resolution.
Windows & Microsoft compatible
#1723641

$79.99

MOUSE SYSTEMS

PenMate™

- Serial device. Works with keyboard and mouse.
- 1000 Lines Per inch Resolution.
- Microsoft Windows Pen Computing included.
- Installs into Windows 3.1 in minutes.
- Programmable Gesture commands
- Trainable to recognize anyone's style of print.
- Full keyboard and mouse emulation capable.

#1710597

$169.99

ANTEC

3-BUTTON BLACK MOUSE

Microsoft & Mouse Systems Compatible
By Antech #1780750

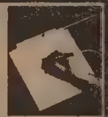
$19.99

Honeywell 2-BUTTON MOUSE

GRAVITY INDEPENDENT
Microsoft & PS/2 Compatible
Unique X-Y Axially Inclined Optical Encoder
#1797381

$59.99

ACECAT PC
GRAPHICS TABLET & MOUSE EMULATOR



1000 Lines Per Inch
5" X 5" Active Area. Includes Stylus-Pen and Comprehensive Utilities Diskette Including Custom Drivers for Mouse, Windows, Control Panel and ADI.
#1659900

$109.99

MICROSPEED

MICROTRAC PC

Size 2.8" x 2.0" x1.25" • Weight 4.0 Oz
50 - 9600 DPI • Microsoft Compatible
Mounting Bracket Included
Serial & PS/2 • Connectors
Drag-Lock Button
#1621903

$58.88

INTERLINK ELECTRONICS

PortaPoint

Gently touch the unique sensor button to control both speed and direction. PortaPoint comes complete with a PS/2 adapter, a quick-release Velcro attachment and a 3 1/2" DOS driver diskette. (5 1/4" available).
#1747825

$59.99

Easy OPTIONS™ by IBM™

MINI TRACK

PORTABLE POINTING OR EXTREME SPACE SAVING SOLUTION
#1779309

$89.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

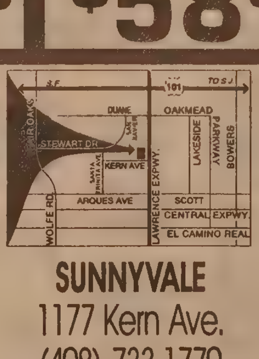
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

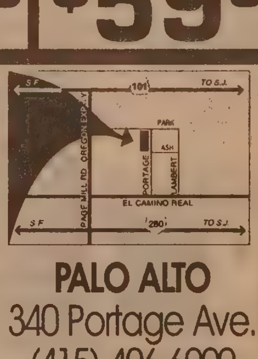
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA MasterCard
VISA AND MASTERCARD

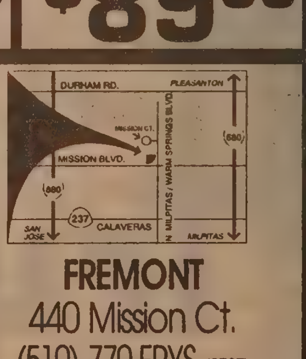
CORPORATE P.O. FAX #



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800

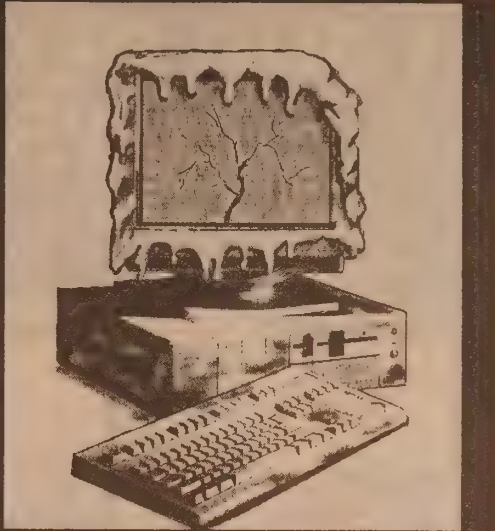


PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

AVOID SYSTEM MELTDOWN !



7 OUTLET SURGE ARREST

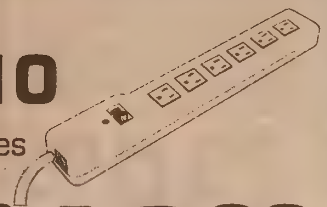
480 Joule Dissipation
EMI/RFI Filtering
Status and Wiring Faults Leds
#1651326

INSTANTANEOUS 0 NANOSECOND RESPONSE TIME!

#1651256 240 Joules Dissipation, S7 Model $\$19^{99}$

$\$69^{99}$

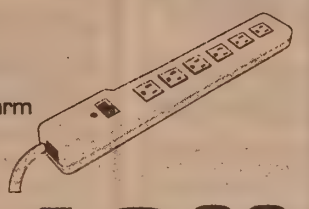
KENSINGTON™ POWERTREE 10



Suppresses Surges up to 120 Joules
15 AMP Circuit Breaker
Platinum Color
Six outlets
#1423578

$\$13^{99}$

KENSINGTON™ POWERTREE 20



Surge Suppression Indication: LED and buzzer alarm
Rated Voltage: 120 Volts AC
Rated Current: 15 Amps
Clamping Voltage: 340 V
Current Peak: 4500 Amps;
Energy Dissipation: 120 Joules
Typical Response, Time: <1 nanosecond
Warranty: 1 Year #1423589

$\$19^{99}$

PROXIMA PROLINE 10

SIX OUTLET SURGE PROTECTOR

For IBM, Apple and Printers
240 Joules Energy Dissipation
5 Year Waranty
#1483842

$\$22^{95}$

PROXIMA PROLINE 20

SIX OUTLET SURGE PROTECTOR

For 286, 386, MAC II, Laser Printers
320 Joules Energy Dissipation
Lifetime Warranty
#1483853

$\$36^{95}$

PROXIMA PROLINE 30

SIX OUTLET SURGE PROTECTOR

For 386/486, CAD/CAM Workstations
Lifetime Warranty
#1483864

$\$54^{99}$

Intelestrip800™

The Power Strip with Intelligent Control

Ideal for remote laptop computer users - now you can turn on your home/office computer from anywhere in the world!

- Activate power by telephone, manual switch, TTL or RS-232 signal
- Built-in Timer with user controlled off delay of 18 seconds to 3 days.

#1544004

$\$89^{99}$

REMOTE POWER ON/OFF

- REMOTE POWER ON/OFF
- REMOTE POWER CONTROL
- ENABLES REMOTE POWER ON FROM ANY TELEPHONE

$\$149^{95}$

#1662191

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

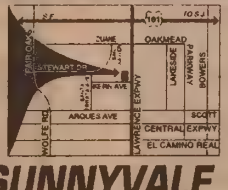
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

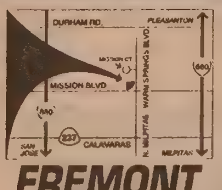
MasterCard
VISA
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX #


SF
101
TO SJ
FAIR OAKS
DUANE
OAKMEAD
STEWART DR
KERN AVE
LAKESIDE
PARKWAY
BOWERS
LAWRENCE EXPWY
ARQUES AVE
SCOTT
CENTRAL EXPWY
WOLFE RD
EL CAMINO REAL

SUNNYVALE

1177 Kern Ave.
(408) 733-1770
(408)735-6800


DURHAM RD.
PLEASANTON
MISSION CT
WARM SPRINGS BLVD.
680
MISSION BLVD
880
237
CALAVARAS
N. MILPITAS
SAN JOSE
MILPITAS

FREMONT

440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

SF
101
TO SJ
PORTAGE
EL CAMINO REAL
280
TO SJ

PALO ALTO

340 Portage Ave.
(415) 496-6000
(415) 496-6044

YOUR BEST PANASONIC HOME OFFICE BUYS ARE ALWAYS AT FRY'S !

ANSWERING MACHINES

Panasonic

ANSWERING MACHINE

Answering system with Auto-Logic Operation, Tone Remote Control, Digital Display, Message Memo Recording and Remote turn on, Auto-Logic Operation Automatically Rewinds, Plays Messages, Stops at the Last Message and Resets itself at the Touch of One Button.

$\$39^{95}$

Model
KX-T1000
#1498194

Panasonic

DUAL MICRO CASSETTE ANSWERING SYSTEM

Panasonic's new dual micro cassette answering system offers an LCD Call Counter, marker message, room monitor, auto disconnect, electronic auto disconnect, electronic volume control, audible message alert, and much more for only...

$\$69^{95}$

MODEL
KX-T2100
#1740208

Panasonic

DUAL MICRO CASSETTE ANSWERING SYSTEM

W/ VOICE TIME/DAY STAMP

Panasonic's new dual micro cassette answering system offers an LCD Call Counter, marker message, room monitor, auto disconnect, electronic auto disconnect, electronic volume control, audible message alert, and much more for only...

$\$89^{95}$

MODEL
KX-T2300
#1740219

SPEAKER PHONES

Panasonic

SPEAKERPHONE

For the office or home, this phone has all the features you need. It has a speaker phone, 28 station automatic dialer, automatic redial and much more.

$\$39^{95}$

MODEL
KX-T2315
#1530100

Panasonic

SPEAKER PHONE

This outstanding value from Panasonic offers one-touch dialing for up to 28 16-digit telephone numbers, auto redial for up to 15 times, redial memory transfer, and a save button for temporary redial memory storage for only...

$\$49^{95}$

MODEL
KX-T2355
#1287186

Panasonic

LCD READOUT SPEAKERPHONE

This outstanding value from Panasonic offers a 12-digit LCD readout for phone number, clock, call timer(minutes & seconds), and operating modes. Perfect for the home or office at only...

$\$69^{95}$

MODEL
KX-T2365
#163665

MULTI-LINE BUSINESS PHONES

Panasonic

TWO LINE PHONE

A two line phone doesn't have to cost a fortune. Panasonic has the low cost answer for you. This unit has a convenient auto dialer, conference calling and much more!

$\$49^{95}$

MODEL
KX-T3110
#1505313

Panasonic

2-LINE SPEAKERPHONE W/ LCD DISPLAY

From Panasonic comes this fully featured 2-line speakerphone with LCD display, 3-way conference call, volume control for speaker and handset, 24-station one-touch dialer, auto redial, flash, separate ringer tone, line status indicator, memo dial, and save redial, all for only...

$\$89^{95}$

MODEL
KX-T3175
#1745122

AVAILABLE IN BLACK OR WHITE

Panasonic

3-LINE SPEAKERPHONE WITH LCD DISPLAY

From Panasonic comes this fully featured 3-line speakerphone with LCD display, 3-way conference call, volume control for speaker and handset, 48-station one-touch dialer, auto redial, flash, separate ringer tone, line status indicator, memo dial, and save redial, all for only...

$\$159^{95}$

MODEL
KX-T3185
#1768039

AVAILABLE IN BLACK OR WHITE

CORDLESS PHONES

Panasonic

10 CHANNEL CORDLESS PHONE

Most cordless phones have a very short battery life, but this one can last up to 7 days in the standby mode! Add a flexible antenna, 10 number memory, 10 channels, paging and you have an excellent value at...

$\$69^{95}$

MODEL
KX-T 3710
#1511309

Panasonic

10 CHANNEL CORDLESS SPEAKER PHONE

w/LCD HANDSET DISPLAY

If you want the phone that has it all, come and see this one today! The hot new KX-T3920 from Panasonic is like having two phones in one! You can talk and dial from the base or talk back and forth thru the intercom. And it even has a 16 number Automatic dialer!

$\$149^{95}$

MODEL
KX-T3920
#1768051

Panasonic

10 CHANNEL CORDLESS SPEAKERPHONE WITH DUAL MICROCASSETTE

This new top of the line cordless dual microcassete answering system with sound charger technology delivers sound so clear, you will hardly believe your ears! Some of the features included are, 2 way paging, intercom, auto security system, message alert, 2-way and memo recording just to name a few. Now only...

$\$199^{95}$

MODEL
KX-T4400
#1735370

AVAILABLE IN BLACK OR WHITE

FAX MACHINES

Panasonic

FAX MACHINE

WITH ANSWERING MACHINE AND ANTI-CURL

This fully featured Fax from Panasonic comes equipped with an auto-logic answering system and anti-curl, as well as copier capabilities. It's the perfect secretary for your home or business!

MODEL
KX-F150
#1770001

$399

Panasonic

FAX MACHINE

WITH PAPER CUTTER AND ANTI-CURL

This fully featured Fax from Panasonic comes equipped with an auto-logic answering system and auto paper cutter, as well as copier capabilities. It's the perfect secretary for your home or business!

MODEL
KX-F250
#1770023

$469

Home of Fast, Friendly , Courteous Service

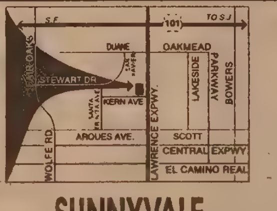
Fry's ELECTRONICS

Prices good through September 13, 1993

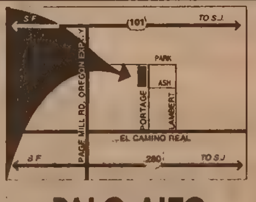
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

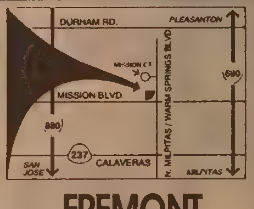
VISA AND MASTERCARD



SUNNYVALE
1177 Kern Ave.
(408) 733-1770



PALO ALTO
340 Portage Ave.
(415) 496-6000



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)

CORPORATE P.O. FAX # (408)735-6800 (415) 496-6044 (510) 770-3700

SONY. THE ONE AND ONLY HOME OFFICE CHOICE

BAY AREA PREMIER

ALL DIGITAL ANSWERING MACHINE WITH VARIABLE SPEED MESSAGE PLAYBACK

Sony has taken digital technology to a new dimension with this beautifully-designed, all digital answering system. The variable-speed message playback controller allows you to speed up (to 1.6 times speed) or slow down (to 0.7 speed) playback of messages without changing pitch. In addition, you can skip, repeat or backspace messages. The multi-function LCD display functions as a digital message counter, clock, call timer, answer mode indicator, and back-up battery strength indicator, while the voice time/day stamp automatically records the time of the message receipt after each message. Other features include: Voice-guided operation, Pre-recorded greeting, Announce-only mode, Memory usage guage, Audible message alert, Remote on/off, Auto interrupt, Memo recording, 2-way conversation recording, and Adjustable ring delay. An invaluable addition to any home or office at only...

MODEL
TAM-1000
#1803901

$147.95

BUSINESS PHONES

SONY.

SPEAKER PHONE w/16# MEMORY

From the leader in cordless phone technology comes a new line of feature phones. This unit has a crystal clear speakerphone, 16 number memory and more!

MODEL
IT-D10
#1699142

$47.95

SONY.

SPEAKERPHONE w/LCD DISPLAY

Have you ever made a mental note to call someone, and then forgot? Well, you won't have that problem anymore because this speakerphone comes equipped with an automatic call timer/reminder alarm! Now only...

MODEL
IT-D150
#1516889

$77.95

SONY.

2-LINE FEATURE PHONE w/ SPEAKERPHONE

Phones with 2-line operation are relatively common, but this phone offers a distinctive ring for each line! The LCD indicator will tell you the number dialed and the time. Now only..

MODEL
IT-D250
#1516904

$97.95

CORDLESS PHONES

SONY.

CORDLESS TELEPHONE WITH PAGING

This Sony cordless phone has 7 day standby, paging and an out-of-range warning system. This handy unit can sit on a table or hang on the wall! All this for only...

MODEL
SPP-57
#1720707

$57.95

SONY.

10 CHANNEL CORDLESS PHONE w/LIGHTED KEYPAD

This 10 channel cordless phone offers an out-of-range alert, extended 7-day battery standby power, 10 number speed dialing, and many other features for only...

MODEL
SPP-77
#1766990

$97.95

SONY.

10 CHANNEL CORDLESS SPEAKERPHONE & DIAL-OUT KEYPAD

From the newest generation of Sony cordless phones comes this model which offers base speakerphone and dial-out keypad giving you the option of answering or making calls from the base or handset, 2-way paging /intercom, 10 number memory, dual rechargeable battery pack, handset volume control, and much more for only...

MODEL
SPP-180
#1720671

$177.95

CORDLESS/ANSWERING MACHINE COMBO

SONY.

10 CHANNEL CORDLESS PHONE w/ ANSWERING MACHINE

This innovative product from Sony actually combines a ten channel cordless phone with a full-featured answering machine in one sleek package. Features include 256 security codes, 7 day stand-by, compander noise reduction and remote message retrieve.

MODEL
SPP-A20
#1714074

$147.95

SONY.

10 CHANNEL CORDLESS PHONE w/ ANSWERING MACHINE AND VOICE TIME DAY STAMP

This innovative product from Sony actually combines a ten channel cordless phone with a full-featured answering machine in one sleek package. Features include 256 security codes, 7 day stand-by, compander noise reduction and remote message retrieval.

MODEL
SPP-A40
#1720578

$177.95

SONY.

10 CHANNEL CORDLESS SPEAKER PHONE w/ ANSWERING MACHINE AND VOICE TIME DAY STAMP

This innovative product from Sony actually combines a ten channel cordless phone with a full-featured answering machine in one sleek package. Features include 256 security codes, 7 day stand-by, compander noise reduction and remote message retrieval. As an added bonus, the base unit is a speakerphone with adjustable volume.

MODEL
SPP-A60
#1720590

$197.95

Home of Fast, Friendly, Courteous Service

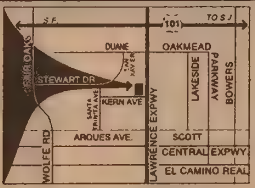
Fry's ELECTRONICS

Prices good through September 13, 1993

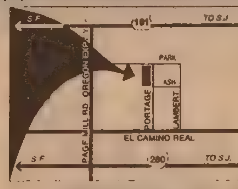
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

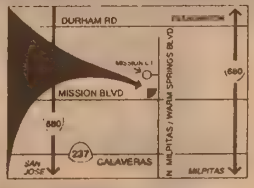
VISA AND
MASTERCARD



SUNNYVALE
1177 Kern Ave.
(408) 733-1770



PALO ALTO
340 Portage Ave.
(415) 496-6000



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)

CORPORATE P.O. FAX # (408)735-6800 (415) 496-6044 (510) 770-3700

GTE Mobilnet
Authorized Sales Representatives

- **Digital switching system**
- **Follow Me Roaming Service**
- **One-point billing**

Ask for more details

GET MOBILIZED
AT FRY'S ELECTRONICS

NOKIA
MOBILE PHONES
It's good to be well connected.

NOKIA LX12 CELLULAR PHONE

- 100 Number Alphanumeric Memory
- Multi-Lingual Display
- Signal Strength Indicator
- Scratchpad Memory
- Four NAM Capability

Service Activation Not Required
No Sales To Dealers Or Resellers
Limit One Per Family

$98.95*

Model
LX12
#1809619

*AFTER $25 INSTANT REBATE

uniden®

HANDHELD PORTABLE CELLULAR PHONE

Our latest handheld portable cellular phone is priced to go and includes dual NAM, 30 number memory, auto redial, 3 call timers, one touch redial, call restriction, signal level meter, low battery warning signals, plus illuminated LCD, a battery and AC adapter. All for the unbelieveably low price of only...

Service Activation Not Required
No Sales To Dealers Or Resellers
Limit One Per Family

$179.95

Model
CP6000
#1787539

MOTOROLA

TRANSPORTABLE HANDHELD CELLULAR TELEPHONE

Motorola's most popular Hand Held Phone has all the right features! This compact unit will allow you to talk for up to 90 minutes, keep 30 numbers in memory, and much more!

Service Activation Not Required
No Sales To Dealers Or Resellers
Limit One Per Family

$199.95

Model
8000-HX
#1502549

MOTOROLA

CELLULAR FLIP PHONE

This premium value cellular phone from Motorola comes equipped with 30 number memory, LED display, call timer, signal strength meter, a battery with 75 minute total talk time, an overnight charger and a caring case for only....

Service Activation
Not Required
No Sales To Dealers
Or Resellers
Limit One Per Family

$298

Model
DPC-550
#1635999

MOTOROLA

ALPHA MICRO-TAC CELLULAR PHONE

If it's small and lightweight that your looking for, this is the cellular phone for you! With its 101 alpha numeric memory, a desktop charger, and standard battery. This technologicaly advanced cellular phone can be yours only...

Service Activation
Not Required
No Sales To Dealers
Or Resellers
Limit One Per Family

$359

Model
DPC-950 BASE
#1744545

MOTOROLA

MICRO TAC LITE CELLULAR PHONE

Weighing in at 7.7 ounces and measuring 11.6 cubic inches, this is one of the lightest and most advanced cellular telephones available. With 100 alpha numeric memory, are tractable antenna, standard battery, and desktop charger, you can receive state of the art performance and design for only...

Service Activation
Not Required
No Sales To Dealers
Or Resellers
Limit One Per Family

$559.95

Model
MICROTAC
LITE BASE
#1750739

Home of Fast, Friendly, Courteous Service

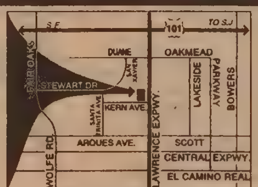
Fry's ELECTRONICS

Prices good through September 13, 1993

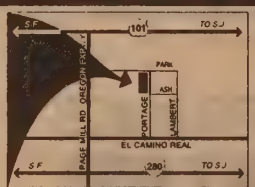
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

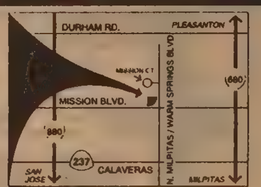
VISA AND MASTERCARD


S.F.
101
TO S.J
FAIR OAKS
DUANE
SAN XAVIER
OAKMEAD
STEWART DR.
SANTA TRINITA AVE
KERN AVE.
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
SCOTT
WOLFE RD.
LAWRENCE EXPWY.
CENTRAL EXPWY.
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800


S.F.
101
TO S.J
PARK
ASH
PAGE MILL RD. OREGON EXPY.
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044


DURHAM RD.
PLEASANTON
MISSION CT
680
MISSION BLVD.
880
N. MILPITAS / WARM SPRINGS BLVD
SAN JOSE
237
CALAVERAS
MILPITAS

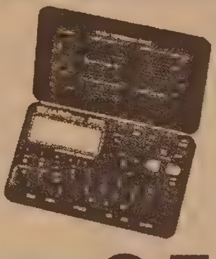
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

CORPORATE P.O. FAX #

GET ORGANIZED AT FRY'S ELECTRONICS!

SHARP

PERSONAL ORGANIZER

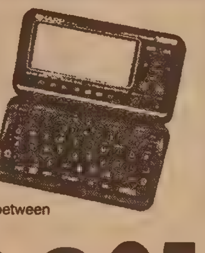


Perfect for the business person on-the-go, this compact data bank incorporates a 14 x 3 line display, built-in calender, schedule, phone/memo, memo pad, expense, clock, anniversary, and calender functions as well as QWERTY keyboard to simplify data entry. Once you've used this electronic marvel, you won't leave your home or office without it!

MODEL
Y0-100
#1800665

$\$49^{95}$

SHARP 128KB BUSINESS ORGANIZER w/WIDE SCREEN DISPLAY

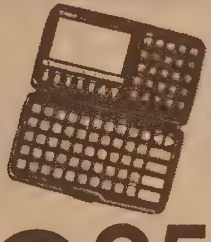


In today's world, It's sometimes hard to keep track of where you've been, who you've seen, and where you're going, but now it's as easy as saying "S.H.A.R.P!" With this deluxe business organizer, you can store approximately 2,470 names and numbers or 1,740 schedule appointments (128K), but that's just the beginning, the unit's internal memory can be allocated between 10 major built-in functions: An integrated schedule and to do list with 3 different calender views, 3 phone/address books, business card file, memo pad, outliner, home and world time clocks, and a calculator. You can send/receive electronic mail using built-in terminal emulation software and an optional PC modem, as well as, exchange data with your PC or Mac using an optional PC interface software and cable package.
A must for any business person on-the-go at only...

MODEL Y0-610 #1753444

$\$199^{95}$

CASIO 32K DIGITAL DIARY

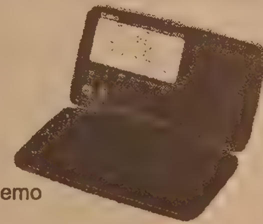


Why carry around a calendar and schedule book, or a telephone directory and notebook, when you can do it all and more with this new digital diary from Casio.
Optional PC and Mac links also available.

MODEL
SF-4300
#1647189

$\$49^{95}$

CASIO B.O.S.S. w/64KB MEMORY



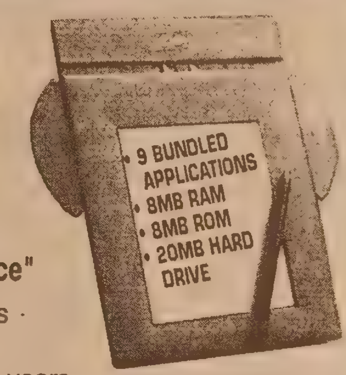
This business organizer scheduling system comes packed with powerful functions that are practical and easy to use. The QWERTY Keyboard, telephone directory, calendar, memo function, schedule alarm, world time function, home time function, and schedule keeper will prove to be an invaluable tool in keeping your busy days in order.
An excellent investment at...

MODEL
SF-5300
#1671137

$\$89^{95}$

AT&T **EO**

PERSONAL COMMUNICATOR


• 9 BUNDLED APPLICATIONS
• 8MB RAM
• 8MB ROM
• 20MB HARD DRIVE

"The First Truly Handheld Mobile Office"

The AT&T EO Personal Communicator is the most revolutionary advancement in Communication Technology to appear in years.
By combining Faxing capability by either LAN Line using the built-in modem, or wireless using an optional cellular module, electronic E-Mail, Data Access, and Pen-Based computing in a single 2.2 LB Handheld Unit, the AT&T EO Personal communicator is what you need today to say ahead in business. A COMPLETE mobile solution. A solution that keeps you in touch anytime and anywhere!

Model 440
#181127966

$3299

HEWLETT PACKARD
Authorized Dealer

1MB PALMTOP COMPUTER w/80 x 25 FULL SCREEN MS-DOS 5.0

It's here! The smallest, lightest HP PC ever comes equipped with complete organizer software to manage your time, tasks and data, plus you can retrieve information instantly with a full range of built-in personal productivity tools. The pull-down menus and dialogue boxes make it simple to master the familiar commands, and the high-resolution display with zoom option is easy to read !
With lotus 1-2-3 built-in you will have full spreadsheet capability, including graphics and macros. Also includes CC:Mail built-in. Now only...

MODEL
HP-100LX
#1788150

$695

PCMCIA MEMORY CARDS FOR HP95/100LX & AT&T EO PERSONAL COMMUNICATOR

SIMPLE TECH	1MB	SRAM	$\$178^{95}$
SUNDISK	5MB	FLASH	$449
SUNDISK	10MB	FLASH	$749

Fry's ELECTRONICS

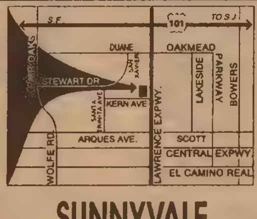
Home of Fast, Friendly, Courteous Service

Prices good through September 13, 1993

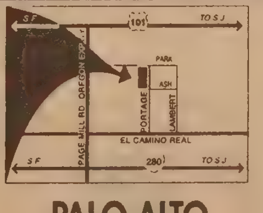
Limit Rights Reserved
Not Responsible For
Typographical Errors

HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

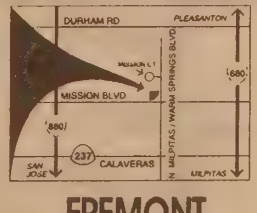
VISA AND
MASTERCARD


S.F.
101
TO S J
DUANE
SAN XAVIER
OAKMEAD
STEWART DR
KERN AVE
SANTA TRINITA AVE
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
SCOTT
CENTRAL EXPWY.
EL CAMINO REAL
WOLFE RD
LAWRENCE EXPWY.

SUNNYVALE
1177 Kern Ave.
(408) 733-1770


S F
101
TO S J
PARK
ASH
PORTAGE
LAMBERT
OREGON EXPY
PAGE MILL RD
EL CAMINO REAL
280
TO S J

PALO ALTO
340 Portage Ave.
(415) 496-6000


DURHAM RD
PLEASANTON
MISSION CT
680
MISSION BLVD
880
237
CALAVERAS
SAN JOSE
MILPITAS
N MILPITAS / WARM SPRINGS BLVD

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)

CORPORATE P.O. FAX # (408)735-6800 (415) 496-6044 (510) 770-3700

FRY'S ELECTRONICS IS YOUR TEST AND MEASUREMENT HEADQUARTERS

PLUS WE STOCK: TEST ACCESSORIES, METER CASES, PROBES, CRYSTALS, OSCILLATORS, RESISTORS, CAPS, EPROMS, PALS, PROGRAMMERS, UV ERASERS, SOLDERING EQUIPMENT, TTL LOGIC, DISCRETES, ELECTRONIC KITS, DATA BOOKS, TECHNICAL BOOKS PLUS MUCH MORE...

NEW FRANCHISE

HITACHI

100MHz LOGIC ANALYZER

32 Data Channels • 5ns Glitch Capture
Multi-Level Triggering • 8K Memory/Channel
The VC-3120 Logic Analyzer provides 25MHz analysis on up to 32 channels. With Soft-Key menus & on-line instructions. This logic analyzer is easy-to-use yet powerful enough for advanced digital design & microprocessor system debugging

$1995

V-3120
#1746352.

NEW FRANCHISE

HITACHI

50Mhz OSCILLOSCOPE

With Single Time Base & High Resolution CRT. The usefullness of Hitachi scopes is extended to cover an array of new measurement applications.
2 channel • 6 inch screen
3 Year Warranty.

$895

V-522
#1746248

NEW FRANCHISE

HITACHI

20Mhz OSCILLOSCOPE

This lightweight, slim-line scope has become the standard of high performance. Hitachi scopes have earned acclaim from field-serving and maintenance personnel worldwide. 2 Channel, Single Time Base, 3 Year Warranty

$419

Model V-212
#1746237

AMERICAN RELIANCE INC.

PROGRAMMABLE DC POWER SUPPLY

The programmable DC Power Supply Series from ARI adds a new dimension for flexible testing of bench top environments. Although primarily used in ATE systems, the PPS' main beneficiaries are the lab and service people. With a PPS, one may effectively implement, monitor and alter all interface. The unit is controlled via a computer, thus reducing system set-up time and increasing productivity.

SINGLE OUTPUT
32V/2A

$459.99

PPS-1322
#1682382

Protek

DC POWER SUPPLY

A high quality DC power supply featuring a unique owner savings design for cooler and more efficient operation. Two separate LED displays; green readout for voltage and red for current. Continuously variable with LED indicators signaling either constant voltage or constant current operational mode. Good Line, load regulation plus low ripple and noise makes this a fine compliment to any test bench.

DC OUTPUT
30V @ 3A

$249

3003
#1693238

Protek

2MHz SWEEP FUNCTION GENERATOR

Frequency Range: 0.02Hz to 2MHz/7 Ranges
Outputs: Sine, Triangle, Square Wave, Pulse, Ramp, Slewed Sine wave.
Sync Out • VCF-Input • Variable Symmetry
DC offset • Sinewave (Variable Amplitude)

$219

B-801
#1601974

FLUKE 87 4.5 DIGIT TRUE RMS DIGITAL MULTIMETER

19,999 Count high resolution mode, plus 1ms Peak Min/Max Hold.
- Min/Max/Average recording mode w/Min/Max alert
- Frequency, Duty Cycle, & Cap Measurements
- Back-lit display, touch hold, relative modes
- Protective Holster with Flex stand
- Made in USA
- 3 Year Warranty

$298

#1440238

THE CHIEF ENGINEER ULTIMATE METER

TRUE Rms - LCR - Hz - dBm

12 INSTRUMENTS IN ONE

- DC Volt Meter
- AC Volt Meter
- Ohm Meter
- DC Current
- AC current
- Diode Tester
- Audible Continuity Tester
- Frequency Counter 20MHz
- Capatance Meter
- Inductance Meter
- Logic Probe
- dBm

IOMEGA Ohm Impedence • Relative mode • Data hold
Min/Max Average memory Record • True Rms • Auto sleep
Power off
2 Year warranty

S.M.S.

$249

Model 104 #1776719

AMERICAN RELIANCE INC.

3.75 DIGIT DIGITAL MULTIMETER

w/AUTORANGING & 1 YEAR WARRANTY

- True Rms AC
- Auto Data Hold
- Sleep Mode
- Min/Max Memories
- Relative Mode
- 20A Fused
- Frequency Counter
- Capacitance
- Memory Read Function
- 0.3% Basic Acc.

AR-MODEL 37
#1742369

FREE BOOT
W/PURCHASE
#1744648

$99.95

AMERICAN RELIANCE INC.

3.5 DIGIT DIGITAL MULTIMETER

w/AUTORANGING & 1 YEAR WARRANTY

Model 33 is a versatile digital multimeter with an impressive range of capabilities offered at an incredible price. This unit has data-hold functions and a basic accuracy of 0.5%, also audible continuity & fused 20A input
MODEL 33
#1742347

FREE BOOT
W/PURCHASE
#1744648

$59.95

BK PRECISION
MAXTEC INTERNATIONAL CORP.

3.5 DIGIT DIGITAL TOOL KIT MULTIMETER Model 2703A

- Measures voltage, resistance and current
- 0.5% DCV accuracy
- DC current to 10A • Resistance, 0.1 to 20M
- Diode Test
- Drop resistant case

$38.99

#1701403

SL WABER

POWER CONDITIONER

If your equipment suffers from power problems, your company suffers too... SL Waber Has A Solution..

Studies show that over 95% of computer problems are due to brownouts, surges, and damage to circuitry resulting in over-heating, permanent damage, and loss of user time. Since the actual voltage level delivered to your equipment by the utility company may be higher or lower than what is required for safe operation, It's up to you to protect your equipment. Five models feature both undervoltage and overvoltage regulation and range from 300VA to 2400VA. Each model filters out unwanted noise and utilizes SL Waber's® patented 3-stage surge suppression design consisting of metal oxide varistors, gas tube, and silicon avalanche diode; all providing protection against surges up to 72,025 amps!

also available
MODEL PC-1800 $224.95

$92.95

MODEL PC-300
#1791422

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

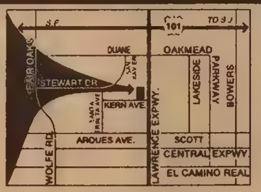
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

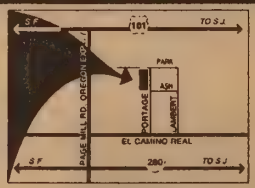
HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA AND MASTERCARD

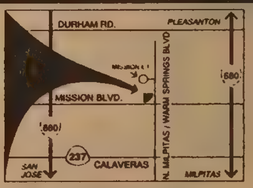
CORPORATE P.O. FAX # (408)735-6800



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6060



FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

GE MT

TWISTED PAIR TRANSCEIVER

- Compatibility: IEEE 802.3 10BaseT Ethernet II
- FCC Class A
- Selectable SQE and Test Link Functions
- LED Indicators: Polarity, Transmit, Receive/Link, Jabber, Collision
- Data Rate: 10 MBPS
- AUI Interface: 15 Pin Male Connector
- Network Interface: RJ45 Modular Connector
- Power Dissipation: < 600m W
- Dimensions: 71 x 54 x 24 mm
- One Year Warranty

TR-0011
#1803602

$69.99

Wiha

MAGNETIZER DEMAGNETIZER

Dimensions: 2.1" x 2.0" x 1.1"
#1738948

$7.99

LITE SOURCE INC.

MAGNIFIER LAMP

5" lens, 3 diopter magnifier lamp, 22-watt included

REG. PRICE $69.99

$49.99

LSM-180
#1784983

PCUBID
Computer Technology, Incorporated

486 CPU KOOLER

A high quality Heatsink and fan combined to cool your Intel 486 CPU. Many inferior versions are out there, but don't be fooled. Come see the PCubid version and you will see why this is the choice of engineers. Easy to attach with thermal adhesive (supplied).

486-CPU
KOOLER
#1722547

$39.95

ALL STATES CABLE TIES 3.75"

COLOR: Neon Yellow, Green, Purple, Blue and more! 1000/PACK

$8.99

RT-350
#1710656

HAKKO

SOLDERING IRON 452

15 Watt Solder Iron 370C 698F. Lightweight, Compact, Slender Handle and Ceramic Heater.
N452JN-V12
#1556283

Reg. Price $23.99

$19.99

BACK TO SCHOOL SPECIAL

LITE SOURCE INC.

CLIP-ON LITE

Flexible neck.
Up to 60w (not included)
Color:
Ivory #1784950 • Teal #1784972
LS-112

REG. PRICE $7.99

$6.99

LEDU

ALADDIN DESK LAMP

Flexible neck.
Up to 75w (not included)
Porcelain socket.
"Easy Dial" on/off switch.
Heat resistant handle on vented shade
Color: Red #1813605
White #1813591
MODEL 323

REG. PRICE $19.99

$12.99

RAMSEY ELECTRONIC KITS

Ramsey electronic kits are America's most economical and exciting line of kits for hobbyists, educators, club projects and radio amateurs. Ramsey kits are handy, easy to build, easy to use functional kits, that can be used alone or as building blocks in larger, more complex designs.

VS-1 VOICE ACTIVATED SWITCH **$6.95**
#1743201

TV-6 TV TRANSMITTER **$19.95**
#1743175

SC-1 SHORTWAVE CONVERTER **$27.95**
#1743108

WIRE STRIPPER CUTTERS

A handy, light, compact tool for stripping insulation from 12 to 26 AWG (2.5-0.14mm²) wire. Convenient hole for looping or bending wire. With or without hold-open spring. Plastic-dipped handles.

KLEIN EST 1857 TOOLS

1003
#1798887

$3.99

HI-TECH CLEANER AND PROTECTOR

STATX™

ANTI-STATIC FORMULA REPELS DUST

HI-TECH CLEANER AND PROTECTOR

Reg. Price $3.49

$2.99

81238
#1731859

QVS

DELUXE COMPUTER SERVICE KIT W/SOLDERING IRON

Contains chip inserter, extractor, crimping/cutting/stripping tool, spare parts tube, wrench, pliers, assorted screw drivers, soldering iron, soldering tools, heat sink, desoldering pump, torx screw drivers in a zippered vinyl carrying case.

$38.95

CA217
#1780808

AKRO-MILS

19" TOOL BOX

This tough, solid polypropylene tool box is the competitively priced workhorse of our Red Line consumer models. Features include: Sure-lock metal latches, deep main storage compartment, full interlocking hinges, padlock eye, and convenient lift-out tray. Storage capacity is 1180 cubic inches. Measures 19" w. by 9 1/2" d. by 8 1/2" h. Model 09-919 #1745823

$12.99

AKRO-MILS

60 DRAWER STORAGE CABINET

See-thru drawers • Stackable frames
Recessed tray top • Pedestal base
Keyhold Hanging slots
Grey pebble grain finish

$13.99

Model 10-460
#1497148

3M

ANTI-STATIC WRIST STRAP W/CORD AND CLIP

Static control wrist strap set complete with 6ft. extended length coil, safety resistor and alligator clip.

$15.99

2215
#1753134

3M

ELECTRONICS TOOL CASE VACUUM

- Specifically designed for the service tech who needs/wants to carry his tools in the same case as the vacuum.
- Polyethylene case construction is built tool-box tough for long life.
- Extra storage space for spare parts, fluidbottles and repair manuals
- 2 tool pallets to hold a full range of technicians tools
- Electronic vacuum, filter and all accessories conveniently fit inside the tool case

Model
4974JN
#1811566

$299.99

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

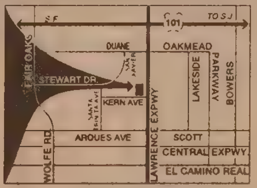
Prices good through September 13, 1993

Limit Rights Reserved
Not Responsible For
Typographical Errors

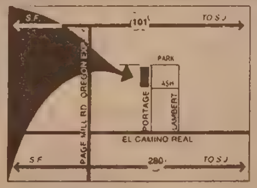
STORE HOURS:
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

VISA MasterCard
VISA AND MASTERCARD

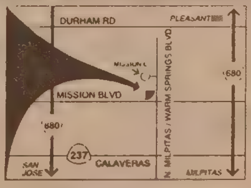
CORPORATE P.O. FAX #



SUNNYVALE
1177 Kern Ave.
(408) 733-1770
(408)735-6800



PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044



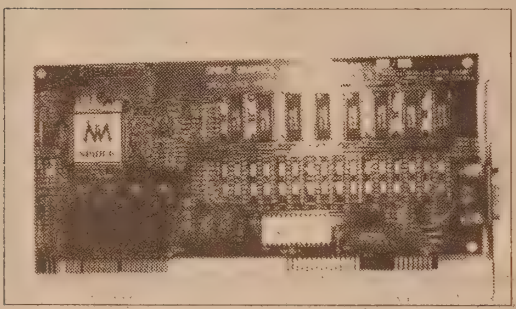
FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

PRODUCT SPOTLIGHT

New Products

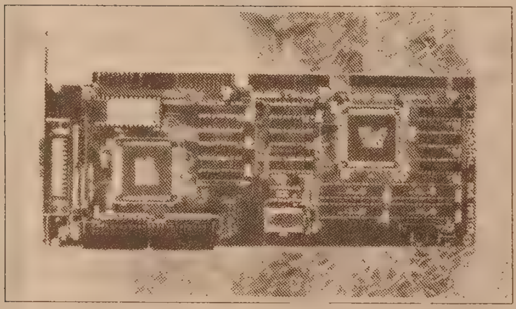
PC HARDWARE

SPIDER VIDEO CARDS

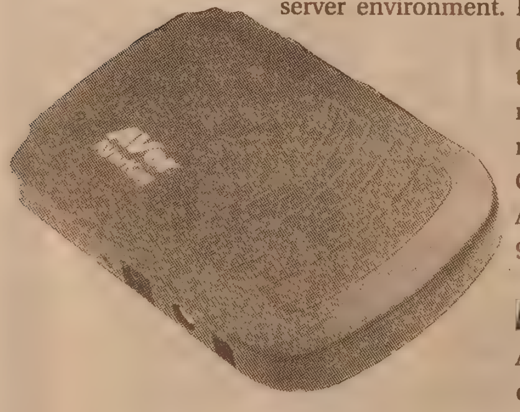


The SPiDER 32VLB and 32VLB Plus are affordable video cards using the Cirrus Logic CL-GD5426 VGA chip to offer up to 16.7 million colors at 640 x 480 resolution or up to a maximum resolution of 1280 x 1024 with 256 colors (2MB Video DRAM required). Both video cards come with software drivers that are easily installed with SPiDER's custom installation program. The only difference between the 32VLB and 32VLB Plus is speed. The 32VLB Plus contains faster components and sophisticated BIOS to boost its speed by 30%. (List prices for the 32VLB with 1MB of RAM is $169; the 32VLB Plus with 1MB of RAM is $199) SPiDER Graphics, Inc., 801 Ames Ave., Milpitas, CA 95035. (408)956-1231.

FOREX VESA SCSI HOST ADAPTER



The new FR600A VL BusMaster is a 50MHz, 32-bit VESA SCSI Host Adapter. Unique features integrated into the bus master adapter include the combination of high-speed SRAM and board level protocol providing nearly 30% increase in the Data Transfer Rate (DTR) at the same speed. In addition, a 32-bit interface delivers the high performance required for most multimedia applications. With a SCSI-2 DTR of 10MB/second and a VL Bus DTR of 100MB/second, the adapter is an ideal controller for the network server environment. Forex provides a comprehensive one-year warranty including technical support and a 24-hour response program for replacement units. ($240) Forex Computer Corp., 2121 Ringwood Ave., San Jose, CA 95131. (408)955-9280.



AVERKEY

AVerKey is a dynamic tool for the creation of business presentations, training tapes, software demo tapes, animations, and other video presentations. It gives you high-quality, flicker-free video output from any PC

UPDATES

❖ **Akimbo Systems** has acquired rights to **FullWrite Professional** from **Borland International, Inc.** Akimbo Systems assumes upgrade, support, and maintenance responsibilities for FullWrite. Akimbo Systems, Inc., 11 Rose St., Somerville, MA 02143. (617)776-5500. Email: FullWrite@aol.com.

❖ **Aladdin Systems** announced **StuffIt Expander 3.0.2**, which is 15% faster at decompression than earlier versions. The program is available free on major online services including CompuServe, America Online, and AppleLink. Aladdin Systems, Inc., 165 Westridge Dr., Watsonville, CA 95076. (408)761-6200. AOL/AppleLink: ALADDIN. CompuServe: 75300,1666.

❖ **Brøderbund** introduced **The Playroom 2.0** (for DOS), its innovative, early childhood educational program built around the theme of a child's playroom. Brøderbund Software, Inc., 500 Redwood Blvd., PO Box 6121, Novato, CA 94948. (415)382-4400.

❖ **Excellink** introduced its upgraded **JetCard** series of printer sharing solutions, which allows up to ten users to share HP InkJet and DeskJet printers or plotters. Excellink, Inc., 1430 Tully Rd., Suite 415, San Jose, CA 95122. (408)295-9000.

❖ **Inline Software** (formerly Inline Design) announced the release of **Redux Deluxe**, a major upgrade to its Macintosh backup program. Inline Software, Inc., 308 Main St., Lakeville, CT 06039. 1-800-453-7671.

❖ **Intel Corp.** is packaging free **Quicken 2 for Windows** software with all **Intel SatisFAXtion modems** through September 15, 1993. Intel Corp., 1-800-538-3373.

❖ **Polaroid** announced a special upgrade program for its **Digital Palette CI-3000** or **CI-5000** color film recorders. Customers can have their units functionally upgraded to match the new speed-enhanced **Digital Palette "S"** series film recorders. Polaroid Corp., 575 Technology Sq., Cambridge, MA 02139. 1-800-225-1618.

❖ **Quicksoft** released **PC-Write 4.1**, which includes graphics, envelope printing, customizable status line, stress indicator, Windows clipboard support, and many more new features. Quicksoft, Inc., 300 Queen Anne Ave. N., #224, Seattle, WA 98109. 1-800-888-8088.

❖ **Vertisoft Systems** announced the availability of **SPACEMANager v1.5**, a data compression utility that gives MS-DOS 6.0 and Windows users up to a 40% increase in disk space over files compressed with MS-DOS 6 DoubleSpace. SPACEMANager is offered at an introductory price of $49.95 through November 1, 1993. Vertisoft Systems, Inc., Transamerica Pyramid, 4th Fl., 600 Montgomery St., San Francisco, CA 94111. (415)956-5999.

❖ **WordPerfect Corp.** announced its enhanced cross-platform licensing program, **Easy Move.** With Easy Move, a customer who purchases WordPerfect for one platform can be licensed free of charge to run WordPerfect on any of the other three platforms at or below the current version they are running. WordPerfect Corp., 1555 N. Technology Way, Orem, UT 84057. (801)255-5000.

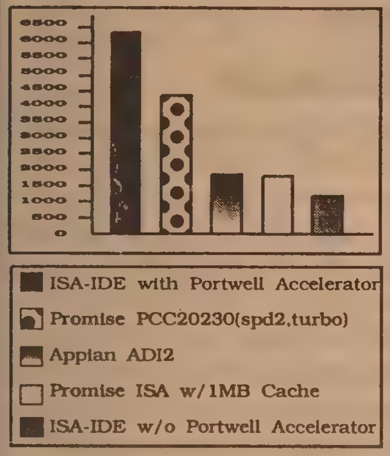
Technoland

We Do Business Your Way!

(408) 992-0888

Increase Your Hard Drive Speed By 500% with Portwell VLB Accelerator

System Specifications
Core Test Ver. 2.92
UMC Chip set; Intel 486DX/50MHz motherboard
Maxtor 7345AT 340MB IDE Disk Drive



Portwell VLB IDE Accelerator

Faster than any VESA LB IDE controller card on the market!

The Portwell Accelerator is a new, low-cost, fast transfer rate, high-performance interface board for VESA LB com puter. The Portwell Accelerator only occupies VL-Bus MCA type slot and frees up the ISA AT slot for ISA Super IDE card. The hard disk transfer rate can be increased by as much as five times over standard Super IDE card without Portwell VLB Accelerator card.

Introductory Price
$49

Maximum Data Transfer Rate
*9.0 MBytes/second

Host Bus Interface
* Fully VESA Local Bus compatible
* Register level compatible w/WD-1003 controllers
* Maximum bus speed up to 80486DX/50MHz

Disk Interface
* Support two IDE hard drives
* Fully compatible w/ATA Rev. 3.0 specification

Compatibility and Installation
* WD-1003 mode works with all operating systems
* Plug and Use, enhance any non-intelligent IDE controller without reformatting the disk drive

Dealer Wanted!
Please Call: 1-408-730-9288

IDE & SCSI CONTROLLERS

IDE 2HD/2FD	$14
IDE 2HD/2FD W/S, 1P, 1G	18
IDE VLB W/2S, 1P, 1G	55
TECO DC-680 IDE VLB CACHE 4HD/2FD	190
TECO DC-620 EISA CACHE 4HD/2FD	190
ADAPTEC 1542C SCSI BUS MASTER	195
ADAPTEC 1742 EISA SCSI 32 BIT	415
FUTURE DOMAIN SCSI 16-BIT	65
ULTRASTOR 14F 10MB/SEC	192
ULTRASTOR 34F VLB	279

IDE HARD DRIVE SPECIAL!

40 MB SEAGATE ST-351	$128
80 MB CONNER CP30084/MAXTOR 7080A	164
120 MB CONNER CP30104H/MAXTOR 7120A	178
170 MB CONNER CP30174E	188
200 MB CONNER CP30204/MAXTOR 7213A	228
250 MB CONNER CP30254/MAXTOR 724A	255
340 MB MAXTOR 7345A	315
540 MB CONNER CP3544/MAXTOR LXT535A	668

SCSI & LARGER CAPACITY HARD DRIVES ARE ALSO AVAILABLE

AUTOMATIC LASER-SAFE PRINT SHARING ADAPTERS

- Flexible Wiring Transmission–Bus, Tree, Ring, Star, etc.
- High Speed Transmission, up to 10,000 Characters/Second
- Transmission Distance Up To 1,300
- Uses a Simple 6-wire Telephone Cable, No Power Required.

GT-100 SERIES

Up To 40 Computers Share 1 Printer

GT-100SK: Starter Kit (Two Com. 1 Printer	$125
GT-100T: Transmitter w/25 Foot Cable	49
Gt-100P: Receiver w/25 Foot Cable	49

GT-400 SERIES

Up To 40 Computers Share Up To 4 Printers
DOS 5.0 & Windows 3.X Compatible

GT-400SK: Starter Kit (Two Com. 1 Printer)	$175
GT-400T: Transmitter w/20 Foot Cable	79
GT-400P: Receiver w/20 Foot Cable	79

Voice+Fax+Data

Portwell Voice Fax/Modem 96/24

Portwell all-in-one voice messaging, fax, and modem communication system has all the capabilities of a stand-alone fax machine, telephone answering machine, data modem, and much more.

- Auto Detection of voice/fax/modem
- Background Sending/Receiving
- Real-Time Viewing of Fax Messages
- Caller ID Detection
- Remote Greeting Update
- Message Playback w/Password
- Message Forwarding
- Message/Fax Broadcasting
- Schedule Transmissions Voice/Fax
- Automatic Busy Redial
- Text Editor & Graphic Editor
- Multiple Telephone Book Management
- Multiple File Formats Support
- Mouse Support
- Image Scanner Control
- Mail Merge

Complete Solution!

Introductory Price: $128
List Price: $199

Dealer Wanted!
Please call: 1-408-730-9288

HUGE SELECTION OF CD TITLES IN STOCK!

***ATLAS *GRAPHIC *SOUND, MUSIC *EDUCATION * REFERENCE * FAMILY APPLICATION * GAMES * SHAREWARE *ENTERTAINMENTS * ADULT**

Beauty & The Beast	$21
Barney Bear Goes to Space	21
Chesssmaster 300 MPC	23
Carmen San Diego-Deluxe	33
Desert Storm	23
Dinosaur Adventure	24
Family Choice	27
Game Master	21
Great Cities-Vol 1 or 2	26
Jones In The Fast Lane	23
KGB World Fact Book	$32
King's Quest V	23
Loom	23
Mixedup Mother Goose	21
Monkey Island	24
Nat'l Geographic Mammals	27
National Parks	27
Peter and The Wolf	23
U.S. Atlas	21
World Atlas	21

Mitsumi CD-ROM with Interface Card	$185
NEC 84XT SCSI 280ms 300KB/S	415
TOSHIBA 3401B SCSI 200ms 330KB/S	425
SONY 31A W/CONTROLLER CARD	215
PANASONIC CR522 W/AUDIO CARD & CONTROLLER	215
MIDILAND PP12 SHIELDED SPEAKERS, 20 Watt	69
LIGHT WEIGHT HEADPHONES WITH EXTENSION CORD	15

VGA ON TELEVISION SPECIAL!!

*Display VGA Programs on Large TV Screen
*Pocket Size Adapter
*Converts VGA Signal to NTSC Format
*Perfect for Notebooks & Laptops

Your Price: $98
Limited Quantity

*Upgrade Version: Flicker Filter, Support Windows 3.X, S-VHS, RGB

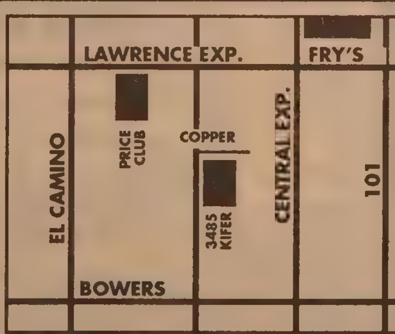
Your Price $245

No Surcharges for Credit Card Purchases

No Annoying Voice Mail Answering Machines

Yes We Gladly Accept P.O.'s From CVorp., Educ. and Government Accounts

Yes We Will MEET or BEAT ANY ADVERTISED PRICE!



COME SEE OUR SHOWROOM!

1 Block Away From Price Club At The Intersection of Kifer and Copper
3485 KIFER ROAD SANTA CLARA, CA 95051

TEL: (408) 992-0888

VISA

FAX: (408) 992-0808

MasterCard

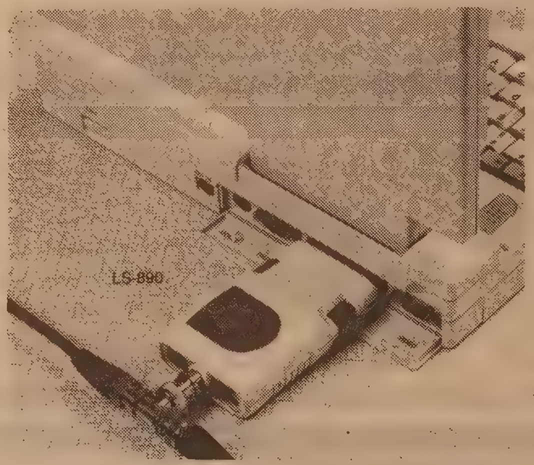
MON-FRI 9 AM-6 PM/SAT 10 AM-5 PM
Prices subject to change w/o notice, not responsible for typographic errors

computer application, including Windows. AVerKey also lets you view simultaneous display of your computer monitor and TV screen. This compact device works with any monitor running VGA color at 640 x 480 resolution (or lower). Simply plug in AVerKey, connect your VGA monitor and VCR or television, and you're ready to go. ($249) Digital Media Labs, Inc., 47913 Fremont Blvd., Fremont, CA 94538. 1-800-888-5527.

MIDIWIN GM-32 & GM-32V

MiDiWiN GM-32 is a 16-bit dual channel audio board that lets you generate CD-quality sounds from your PC. It provides a MIDI in/out interface, microphone input, stereo auxiliary input/output, and stereo headphone output for connection to your audio equipment. The GM-32V provides all of these features plus real-time Windows Sound System compatibility. MiDiWiN audio boards also include software for your recording and playback: MKS 20-20 Sound Editor, UniSoft Sound Manager, Windows 3.1 driver, ASC Nkey 1.5 music performance software, and a mixer control utility for MS-DOS and Windows 3.1. Positive Solution Computer, 10032 San Pablo, El Cerrito, CA 94530. (510)527-6908.

DUAL PORTABLE ETHERNET POCKET LAN ADAPTER



The LS-809 Ethernet Pocket LAN is ideal for laptop computer users who need to connect to either a 10Base2 or 10BaseT local area network. With the support of thin coaxial cable and unshielded twisted-pair wire, users can easily install a new node in either distributed bus or star topologies. To add a new node on a network simply plug the LS-890 into a parallel port and load the included drivers. It detects network connection automatically and supports switchless automatic installation configuration. The LS-890 also provides diagnostic software. IPX and ODI drivers for NetWare, PC/NSF for Sun, and a packet driver for TCP/IP. Wedge Technology, Inc., 1657 McCandless Dr., Milpitas, CA 95035. (408)263-9888.

LAPTOPS

ALTIMA TRAVELER

The new Altima Traveler notebook weighs only 3.9lbs. and measures 10" x 7.1" x 1.6". Powered by Intel's new 486SL processor, it features an 80MB or 120MB removable hard drive, and 4MB of RAM expandable to 20MB. The Traveler also includes an internal send/receive fax modem, a single PCMCIA Type II slot, parallel port, 84-key keyboard, and an 8" backlit display. Options include an integrated trackball, external floppy disk drive, and matching black 17" color monitor for desktop use. Altima Systems, Inc., 1390 Willow Pass Rd., #1050, Concord, CA 94520. 1-800-356-9990.

THE Wave OF THE FUTURE

COAST COMPUTERS

✦ We Buy & Sell Used Computers ✦

- SYSTEMS
- PRINTERS
- MONITORS
- PERIPHERALS

We have creative solutions to help maximaze your computer budget. The flexibility to handle difficult logistics and de-installations. Our quotes for your systems offer greater value than current trade-in programs offered by others.

HP Vectra ES-12
with COLOR VGA MONITOR
286/12, 640K RAM,
20MB HARD DRIVE, 101 KEYBOARD
$349
OTHER CONFIGURATIONS AVAILABLE

COAST COMPUTERS
(310) 574-2828
FAX: (310) 574-2832
15 OUTRIGGER ST. SUITE 302
MARINA DEL REY, CA 90292

MOTHERBOARD * MOTHERBOARD * MOTHERBAORD

Best Prices for Motherboard

VESA Local Bus Motherboards With INTEL CPU
486DX-66/50/33 VESA Local Bus with 256K cache AMI BIOS, Built-In Math Coprocessor, 8K Internal Cache, 3 Local Bus Slots, Up to 32 Meg RAM.
Special Price: $600/520/390

386 ISA Motherboards With AMD CPU
386DX-33/40 ISA with 8K internal cache
Support 33/40 Mhz Intel/AMD 386DX
Special Price: ———— $110

Local Bus IDE Controller Card — $35.00
Window Accelerators VGA w/1MB — $60.00
Media concept 2.0 sound card — $50.00

Motherboards Only, NO CPU
486DX-50/33 VESA w/256k — $100
386DX-40/33 ISA w/8K — $ 55

F.C. International
TEL:(714)996-0733 FAX:(714)996-0652
2781 Saturn St. Ste. J, Brea, CA 92621
Prices & availability are subject to change without notice

MOTHERBOARD * MOTHERBOARD * MOTHERBOARD

HIGH QUALITY SYSTEMS AT AFFORDABLE LOW PRICES!

486 EISA/VESA LOCAL BUS

GET THE BEST OF BOTH WORLDS

- Pentium Overdrive Socket
- Adaptec EISA Busmaster SCSI Controller
- Genoa 8500 VL VESA Local Bus Video Card
- 15" Flat Screen Non-Interlaced Monitor
- 200 MB SCSI Hard Disk
- 256K Cache
- 4 MB RAM
- 1.44MB FDD
- Mini-Tower Case
- 101 Keyboard
- 2 Serial, 1 Parallel, 1 Game Port

15" FLAT SCREEN MONITOR & 200 MB HARD DRIVE

486DX-33 .... $1945
486DX2-66 .... $2175

Above Systems Also Available With
MICRONICS & NICE MOTHERBOARDS
CALL FOR DETAILS

GENOA
486 VESA LOCAL BUS

System Includes:
- Genoa 486 Motherboard w/ Pentium Overdrive Socket
- 32-Bit Local Bus Genoa Video Card 16 Million Color
- 32-Bit VL-Bus IDE Controller
- SVGA Monitor .28 dot
- 128K Cache on Board to 256K
- 4 MB RAM Exp to 32 MB
- 1.44 MB FDD
- 170 MB Hard Disk/64K Cache
- 1 Parallel/2 Serial/1 Game Ports
- 101 Key Keyboard
- 200 Watt Power Supply
- Baby AT or Mini Tower Case
- 2 YEAR WARANTY ON GENOA MOTHERBOARD & VIDEO CARD

170 MB HARD DISK

486DX-33 .. $1345
486DX-50 ... $1495
486DX2-66 .. $1565

SYSPER 486
VESA LOCAL BUS

Systems Include:
- 4 MB RAM on Board
- 1.44 MB FDD
- 170 MB IDE Hard Disk
- 2FD/2HD IDE Controller
- 16-Bit SVGA w/512K
- 14" 1024x768 Super VGA Monitor
- 1 Parallel/2 Serial/1 Game Ports
- Desktop Baby or Mini-Tower Case
- Clock/Calendar w/Battery Back-Up
- 101 Keyboard

170 MB HARD DISK

486SX-25 ..... $975
486DX-33 ... $1145
486DX-50 ... $1295
486DX2-66 . $1365

2 YEAR LABOR & 1 YEAR PARTS WARRANTY ON ALL SYSTEMS

MONITORS

14" SVGA .39dp	$195
14" SVGA .28 dp	230
14" SVGA .28 Non-In	250
15" Flat 1280x1024 .28NI	385
17" Flat 1280x1024 .28 NI	Call
KFC	
15" Flat 1280x1024 .28NI	445
17" Flat 1280x1024 .28NI w/Dig. Display	765
VIEWSONIC	
14" Viewsonic 4E	Call
14" Viewsonic 6E	299
15" Viewsonic 15	520
17" Viewsonic 7E	895
17" Viewsonic 17	1095
20" Viewsonic 20	1725
MITSUBISHI	
HL 6955SETK 20"	1725
Diamond Pro 17"	1075
BNC Cable	39
NANAO	
17" F550i	CALL
17" T560i	CALL
20" T650i	CALL

VIDEO CARDS

Genoa 8500 VLB w/1 MB	$110
ATI Ultra Plus 1 MB w/Mouse	275
ATI Ultra Pro 2 MB VLB	395
Orchid Fahrenheit VLB	145
Orchid VA/VLB	195
Celsius VLB 1MB	210
P9000	355
Diamond SpeedStar Pro	125
Diamond Stealth 24	145
Diamond Stealth 24 VLB	145
Diamond Stealth Pro 2 MB	320
Diamond Viper VLB 2 MB	395

KEYBOARDS

101 Enhanced	$25
101 Enhanced Click	35
Maxi 101 Enhanced	35
Keytronics 101	39
KeyCat II w/Trackball	75
Focus 9000	72

HARD DRIVES

CONNER	
240 MB IDE	$245
SCSI DRIVES	CALL
MAXTOR	
130 MB IDE	195
245 MB IDE	295
340 MB IDE	CALL
SCSI DRIVES	CALL
WESTERN DIGITAL	
210 MB IDE	CALL
245 MB IDE	CALL
340 MB IDE	CALL
FUJITSU	
2624T 520 MB IDE	645
520 MB SCSI	675
1.2 GB SCSI	995
QUANTUM	
240 MB IDE	265
240 MB SCSI	275
525 MB SCSI	695
700 MB SCSI	895
1.2 GB	1075
TOSHIBA	
877 MB SCSI	945
1.2 GB	1095

FLOPPY DRIVES

TEAC 360K 5.25"	$25
TEAC 1.2 MB 5.25"	55
TEAC 1.44 MB 3.25"	45
TEAC 2.88 MB 3.5"	95
TEAC 1.2/1.44 MB Dual	139

TAPE BACK-UP

Colorado DJ10 120 MB	$139
Colorado DJ20 250 MB	189
Tracker 120 MB	298
Tracker 250 MB	388

CONTROLLERS

IDE w I/O 2S,1P,1G	$20
ASUS EISA SCSI Caching	275
Promis IDE VLB Caching	145
ADAPTEC	
1542C ISA SCSI	195
1742A EISA SCSI	325
ULTRASTOR	
ULT 34F VLB SCSI 32K	285
ULT 24F EISA SCSI 64K	375
ULT 14F ISA SCSI 32K	210

CPU/MEMORY

CALL FOR LATEST PRICING

CD-ROM & SOUND CARDS

Mitsumi CD-ROM w/Kit	$189
Sound Blaster	75
Sound Blaster Pro Deluxe	125
Sound Blaster 16 ASP	205
MIDI Kit	39
Edutainmet CD 16 Kit	499
Thunder Media Kit	399
CD Caddy	9
Labtec Speakers	20

DIGITIZERS

Kurta All Sizes	CALL
SummaSketch All Sizes	CALL
Calcomp All Sizes	CALL

SCANNERS

LOGITECH HANDHELD	
Scanman Model 32	$135
Scanman 256	239
Scanman 256	285
MUSTEK HANDHELD	
Matador 105, 400dpi	105
Scanmagic 256 400dpi	135
Colorartist Pro 800dpi	390
MICROTEK FLATBED	
Scanmaker II 600dpi	849
Scanmaker 1200dpi	1289
MUSTEK FLATBED	
MFS 6000C 600dpi	799

MOTHERBOARDS

MICRONICS (WITH CPU)	
486DX-33 Local Bus w/256K	$795
486DX2-66 Local Bus w/256K	1175
NICE (WITHOUT CPU)	
486-33/66 w/256K VLB	$225
486-33/50/66 w/256K Mini EISA VLB	295
486-33/50/66 w/256K EISA/VLB	465

MODEM/FAX

ZOLTRIX	
96/24 Int Fax/Modem	$59
14.4/14.4 Fax Modem Int	155
US ROBOTICS	
Sportster 14.4/14.4 Fax/Int	179
Sportster 14.4/14.4 Fax Ext	195

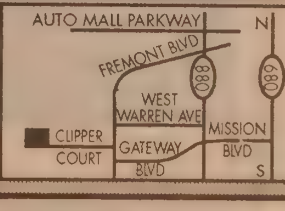
GOVERNMENT & CORPORATE PO'S WELCOME

SYSPER

SYSPER TECHNOLOGIES, INC.

4031 CLIPPER COURT, FREMONT, CA 94538
HOURS: MON-FRI: 9AM-6PM; SAT: 11-4 PST
FAX: (510) 651-9699

TEL: (510) 651-8002



PRICES SUBJECT TO CHANGE W/O NOTICE.
NOT RESPONSIBLE FOR TYPOGRAPHIC ERRORS

HITRON SYSTEMS

STOP Searching Around...Why Look Around When You Can Spend Less Money And Get A Faster Performance Machine From HITRON?

Sound Like a dream? HITRON Will Make It Happen For You! When We Say We Can Save You Money...We Mean It!
Don't Believe It? Just Pick Up Thje Phone And Give Us A Call.
We Will Match Or Beat Any Of The Advertised Prices!!!

SUPER QUALITY!

A SUPER BUY FOR SUPER QUALITY! HIGH PERFORMANCE VESA LOCAL BUS SYSTEMS USING AMI OR MICRONICS MOTHERBOARDS

486DX2-66 .. $1805
486DX-33 .. $1595

INCLUDES:
- AMI or Micronics Motherboard
- 256K Cache
- 4 MB RAM
- 120 MB IDE Hard Drive
- 32 Bit IDE Controller Card
- 1.2 MB and 1.44 MB Floppy Drives
- 2 Serial/1 Parallel Ports
- 14" SVGA .28dp Monitor
- 32 Bit SVGA 1MB Display Card
- Mid-Tower Case w/230Watt PS
- 101 Enhanced Keyboard
- FOR OTHER OPTIONS...CALL

ANNOUNCING...PEER-TO-PEER LANtastic NETWORK FOR LESS!!

ARTISOFT

- LANtastic AI Software
- 16-Bit Ethernet Card
- Terminator
- 10 Feet Coax Cable

LAN TIMES READERS CHOICE 1992

PC MAGAZINE EDITORS' CHOICE April 14, 1992

LAN MAGAZINE 1992 PRODUCTS OF THE YEAR

AS LOW AS $159 PER NODE

Novell Certified NetWare Engineer

NETWORK SERVICES FROM HITRON COMPUTERS

- ❖ FREE CONSULTATION!
- ❖ DESIGN & INSTALLATION
- ❖ HARDWARE AND SOFTWARE CONFIGURATION
- ❖ SUPPORT AND SERVICE
- ❖ FLAT RATE

PERSONAL FINANCING AVAILABLE
*90 DAYS SAME AS CASH (w/o.c.)
*LOW MONTHLY PAYMENTS
*EASY TO APPLY
*FAST CREDIT DECISION
*CALL FOR DETAILS

*1 YEAR PARTS WARRANTY
*LIFETIME LABOR & TECH SUPPORT
*NATIONWIDE ON-SITE SERVICE AVAILABLE
*CORPORATE PO'S WELCOME
*CORPORATE LEASING AVAILABLE

90 DAYS SAME AS CASH!

HITRON HAS THE RIGHT SYSTEM AT THE RIGHT PRICE!

CLEARANCE SALE EVERY SATURDAY DON'T MISS IT!

HITRON MULTIMEDIA PACKAGE

- PANASONIC 522A CD-ROM
- SOUNDBLASTER PRO DELUXE w/KIT
- PAIR OF SPEAKERS
- CD TITLES: • Encyclopedia • Microsoft Bookshelf • World Atlas • Where in the World is Carmen SanDiego • San Diego Zoo Presents "The Animals"

$395

MORE THAN 100 CD TITLES AVAILABLE!
FOR INFORMATION PLEASE CALL

HITRON FILE SERVER

486DX2-66 MHz EISA VESA LOCAL BUS $2048

486DX-50 MHz EISA VESA LOCAL BUS $1995

486DX-33 MHz EISA VESA LOCAL BUS $1845

- 256K Cache Expandable
- 8 MB RAM Exp. to 32 MB
- 1.2 MB FDD
- 340 MB SCSI Hard Drive
- MGP Display Card
- 14" Monochrome Monitor
- Full Tower Case W/250 PS
- Adaptec SCSI EISA Controller
- I/O 2 Serial/1 Parallel/ 1 Game Port
- 101 Enhanced Keyboard

For More Options, Please Call

HITRON HIGH PERFORMANCE SYSTEMS

486DX2-66 MHz $1375

486DX-50 MHz $1285

486DX2-50 MHz $1225

486DX-33 MHz $1145

- 128K Cache Expandable to 256K
- 4 MB RAM Exp. to 32 MB
- 1.2 MB FDD
- 120 MB IDE Hard Drive
- SVGA Display Card w/512K
- 14" SVGA Color Monitor w/.28dp (1024x768)
- Mini Tower Case W/200 PS
- 2 FDD/2 HDD IDE Controller Card
- I/O 2 Serial/1 Parallel/ 1 Game
- 101 Enhanced Keyboard
- Upgrade To Local Bus Add $120 More

BLOWOUT SPECIALS!

486SX-33 MHz $945

486SX-25 MHz $915

386DX-40 MHz $805

386DX-33 MHz $805

- 128K Cache Expandable to 256K
- 4 MB RAM Exp. to 32 MB
- 1.2 MB FDD
- 120 MB IDE Hard Drive
- SVGA Display Card w/512K RAM
- 14" SVGA Color Monitor w/.39dp (1024x768)
- Mini Tower Case W/200 PS
- 2 FDD/2 HDD IDE Controller Card
- I/O 2 Serial/1 Parallel/ 1 Game
- 101 Enhanced Keyboard

HITRON NOTEBOOKS

386SL-25 w/2 MB, 16K Cache $1380

386SL-25 w/4 MB, 16K Cache $1499

- 80 MB Hard Disk
- 1.44 MB Floppy Drive
- VGA Resolution
- I/O-1 Serial/1 Printer Port
- Ext. Keyboard and VGA Connector
- Carrying Case
- DOS 5.0 and Windows 3.1

For More Upgrade Options Call!

MOTHERBOARD

NICE EISA 486-33/50/66.	CALL
MICRONICS VLB 486-33/66	CALL
AMI VLB 486-20/25/33/50/66	CALL
FREE VLB 486-20/25/33/50/66	CALL
JOINDATA 386DX-33/40	CALL
JOINDATA 386SX-25/33	CALL

HARD DRIVES

40 MB (IDE)	$139
80 MB (IDE)	155
170 MB (IDE)	205
250 MB (IDE/SCSI)	275/320
340 MB (IDE/SCSI)	305/405
500 MB (IDE/SCSI)	CALL
1.2 GIGA	CALL

NETWORKING

NE1000 Clone (COAX)	$69
NE2000 Clone (COAX/TP)	85/95
NE2000 Combo Clone	110
Intel EtherExpress COAX/TP	135/145
SMC Etherlink II	165
LANtastic Software	CALL
Novell NetWare 4.0	CALL

VIDEO CARDS

MGP	$12
Trident SVGA w/1MB	60
Tseng SVGA w/1 MB	80
Tseng VLB w/1 MB	109
Genoa VLB w/1 MB	129
Orchid Pro IIs w/1 MB	139
Fahrenheit w/1 MB	139
Fahrenheit w/1 MB VLB	150
Fahrenheit P9000 VLB	CALL
Diamond Stealth 24 w/1 MB	189
Diamond Stealth 24 VLB w/1 MB	CALL
ATI Winder XL 24X w/1 MB	156
ATI Vantage 1 MB w/Mouse	235
ATI Ultra Pro VLB w/2 MB	359

CASES

Full Tower w/250W PS	$110
Black Full Tower w/250W PS	160
Mid Tower w/230W PS	89
Black Tower w/200 PS	98
Black Mini Tower w/200W PS	75
Baby Desktop w/200W PS	60

MONITORS

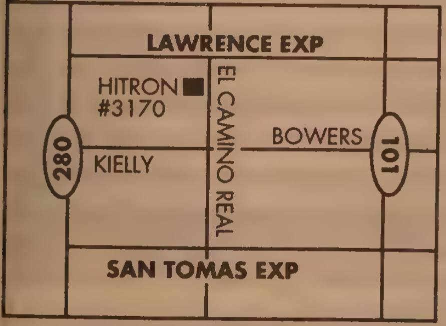
14" Monochrome	$98
14" VGA Mono	125
14" SVGA .39	239
15" SVGA .28	259
14" SVGA .28 NI	285
14" Black SVGA .28	295
14" Black SVGA .28 NI	350
14" ViewSonic 6E .28	325
14" ViewSonic 5E .28	399
14" ViewSonic 5+ .25	509
14" Sony 1304 .25	560
15" ViewSonic 6FX	570
15" NEC 3FGE	CALL
15" NEC 4FGE	CALL
17" ViewSonic 7	CALL
17" NEC 5FGX	CALL
20" ViewSonic 8	CALL
20" NEC 6FG	CALL
ADI	CALL

HI-TECH ELEGANT BLACK CASE SYSTEM ONLY $60 MORE

MISC.

1.2 MB FDD	$55
1.44 MB FDD	52
IDE w/ I/O	17
2400 B Modem	45
9600/2400 FAX/Modem	75
120 MB Tape Back-Up	158
250 MB Tape Back-Up	239
101 Keyboard	35
101 Black Keyboard	40

90 DAYS SAME AS CASH!!



FOR MORE OPTIONS OR INFORMATION PLEASE CALL:

HITRON SYSTEMS
3170 EL CAMINO REAL
SANTA CLARA, CA 95051
(BETWEEN LAWRENCE EXP. & SAN TOMAS EXP.)
TEL: (408) 261-2695 • Fax: (408) 261-2698
MON-FRI: 9-6 SAT: 10:30-4:30

• All Special Items Order Non-Refundable • Prices Subject To Change w/o Notice • Not Responsible For Typo's

TRIAD COMPUTER

"Your solution to computing"

System	Basic System	Basic Sys. w/4MB Ram +1MB card .39 dp Monitor	Basic Sys. w/4MB Ram 170MB H/D 1MB Card .28dp Monitor	Basic Sys. w/4MB Ram 250MB H/D 1MB Card .28NI Monitor	Basic sys. w/8MB Ram 340MB H/D 1MB Card .28 NI Monitor
Vesa Local Bus 486DX2-66/256k	$779	$1194	$1414	$1509	$1759
Ves Local Bus 486DX-50/256K	$719	$1134	$1357	$1449	$1699
Vesa Local Bus 486DX-33/256K	$579	$994	$1214	$1309	$1559
ISA 486DX2-66/256K	$772	$1184	$1404	$1474	$1749
ISA 486DX-50/256K	$709	$1124	$1344	$1414	$1689
ISA 486DX-33/256K	$569	$984	$1204	$1274	$1549
ISA 486DLC-33/128K	$413	$828	$1048	$1118	$1393
ISA 386DX-40/128K	$339	$754	$974	$1044	$1319
ISA 386SX-33	$309	$724	$944	$1014	$1289

Basic System configuration · Motherboard, CPU, 1MB Memory install, IDE with 2S/1P/1G 1.2 & 1.4MB F/Drive, Internal Clock & Cal. build-in, Mini-Tower with Digital & 230watts P/S, 101 Enhanced K/B

Case Upgrade:	
Mini-Tower to Mid-Tower	$ 25
Mid-Tower to Full-Tower	$ 35
Monitors Upgrade:	
SVGA .39 to SVGA .28	$ 35
SVGA .28 to SVGA NI .28	$ 45
SVGA .28NI to 15" NI .28	$ 220
Viewsonic 15" NI .28	$ 485
KFC 17" NI .26	$ 785

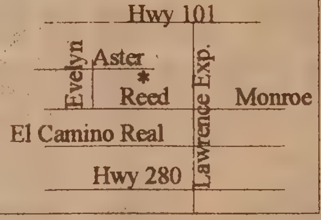
For VLB Sys. Only:	
Upgrade to 32bit Controller	$ 20
Genoa VLB w/1MB	$ 90
Spider VLB w/1MB	$ 85
D. Stealth 24 VLB w/1MB	$ 145
Spider Black Window w/1MB	$ 205
D. Viper VLB w/2MB	$379

We have the best price on everything. Call for the lastest price!

TRIAD COMPUTER
System & Peripheral
1176 Aster Ave. #B
Sunnyvale, CA 94086
Hrs: Monday - Friday
10:00AM - 6:00 PM

Tel: (408) 247-7356
Tech.:(408) 247-8721
Fax: (408) 247-5976

Not responsible for typo-errors
Prices subject to change w/o notice.
All system w/2yrs labor & 1yr part.



HAVE QUESTIONS...CALL THE TECHNICAL EXPERTS

TRUST US. . . WE'RE DIFFERENT

Apple ZENITH IBM COMPAQ Macintosh
EPSON TOSHIBA HEWLETT PACKARD ALR

Vertical Integration Specialists

GIGABYTES

Quality Service & Upgrades • On-Site & In-Shop Service

® Registered trademarks are by the respective companies

TEL: (510) 440-8032 FAX: (510) 440-9099

PRODUCT SPOTLIGHT

COMMAX SMARTBOOK

The Commax Smartbook is a 486 notebook that can support any Intel 486 processor, letting you purchase a 486DX/33 today, and easily upgrade next quarter or next year to a 486DX2/66. The Smartbook Active Matrix Color 9.5" display is well designed for CAD users and desktop publishers that need to see detail on a portable computer. This versatile notebook is designed with a docking station interface to expand its powerful capabilities.

Smartbook models are available in monochrome and color for 486DX/33 to 486DX2/66 processors and feature a built-in trackball, a front loading 3.5" high-density floppy drive, a light AC adapter, MS-DOS 6.0, Windows, and a carrying bag. (The Smartbook Monochrome, 486DX/33 with 4MB of RAM and 120MB hard drive retails for $2247; the Smartbook Active Color 486DX2/66 with 4MB of RAM and 200MB hard drive is $4631) Commax Technologies, Inc., 2031 Concourse Dr., San Jose, CA 95131. (408)435-5000.

MACINTOSH HARDWARE

DAYSTAR TURBO 040i

The new Turbo 040i is a low-cost 20MHz 68LC040 accelerator that uses the same CPU as the Macintosh Centris 610 and provides equivalent performance or better. It offers a low-cost upgrade for users who do not require floating point math performance or need an entire new system. The Turbo 040i supports Apple's Processor Direct Slot (PDS), works with the memory you already have, and leaves NuBus slots free for other expansion boards. It comes in three speeds—20, 25, and 33MHz—and is available for the Mac SE/30, II, IIx, IIcx, IIsi, and IIci. DayStar offers a 3-year warranty, toll-free technical support, 100% compatibility guarantee, and 30-day money back guarantee. (Suggested retail price for the Turbo 040i is $799, $999, and $1299 for the 20, 25, and 33MHz respectively) DayStar Digital, Inc., 5556 Atlanta Hwy., Flowery Branch, GA 30542. 1-800-962-2077.

GOLDEN VALLEY SYSTEMS

Best Prices · Best Quality · Best Service

Get Novell & UNIX Networks & Services

Rivendell Technologies is working with Golden Valley Systems to handle your networking needs, including:

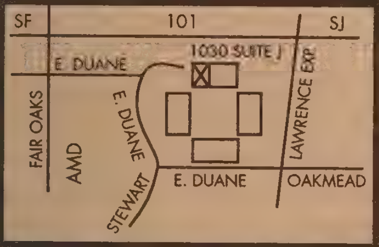
Installation, Excellent Service, Maintenance Contracts, CNE's, Free Technical Estimates and Much, Much More!

Novell Certified NetWare Engineer

Call NOW and Find Out What We Can Do For You!

CALL (415) 917-2350

Golden Valley Systems



1030 E. DUANE AVE. STE. #J
SUNNYVALE, CA 94539
TEL: (408) 738-4921
FAX: (408) 738-4924

COMPLETE SYSTEMS

486DX2-66/256K VESA	CALL
486DX-50/256K VESA	CALL
486DX-33/256K VESA	CALL
486DX2-66/64K ISA	CALL
486DX-50/64K ISA	CALL
486DX-33/64K ISA	CALL
386DX-40/64K ISA	CALL
386SX-33	CALL

- 486 Systems with Intel CPU
- Mini-Tower Case w/200W Power Supply
- 4 MB 70ns RAM
- IDE 2 FD/2 HD Controller
- 2 Serial/2 Parallel/1 Game Ports
- 1.2 & 1.44 MB Floppy Drives
- 120 MB IDE Hard Drive
- 14" SVGA .28 dpi Monitor
- SVGA Card w/1 MB
- VESA Systems with VESA IDE & VESA SVGA Card

NOTEBOOK SPECIALS!

EVEREX V5
386 SXL-25

- Removable 80 MB HD
- 5 MB RAM
- DOS
- Windows
- Carrying Bag
- Mouse

$975

SAGER
4 MB RAM, 120 MB Hard Drive

386DXL-33	$1530
486SLC-25	1575
486DX-33	1835
486DX-66	2100

MISCELLANEOUS

17" SVGA Monitor 1280x1024 .26	$750
14" SVGA Monitor 1024x768 .28	225
14" SVGA Monitor 1024x768 .39	189
Speaker/Amplifier	15
Joystick	10
Sound Card/16 Bit Media Vision	139
Memory SIMM 1x9-70	65
Memory SIMM 1x3-70	60

DRIVES

1.2MB Teac Floppy Drive	$49
1.44 MB Teac Floppy Drive	39
1.2 MB Chinon Floppy Drive	45
120 MB IDE Hard Drive	160
130 MB IDE Hard Drive	170
170 MB IDE Hard Drive	180
200 MB IDE Hard Drive	220
200 MB SCSI	220
340 MB IDE Hard Drive	340

NETWORK CARDS

ETHERNET:	
-8 bit E100 Coax/ET500TP	$69
-16 bit E200 Coax/ET600TP	79
-Boot Prom (For E100/200/300/600)	25
-Hub 8 Port TP + 1BNC + 1 Cascading	265
-12 Port TP + 1BNC + 1AUI + 1 Cascading	465
-Pocket Ethernet For Coax/TP	159
ARCNET:	
-16 bit for XT/AT Star Combo	$69
-16 bit for XT/AT Bus Combo	79
-16 bit "4-in-1" Turbo Star & Bus (w. NCR 90C98A ASIC)	$99
-4 Port Arcnet Passive Hub	19
-8 Port Coax Stackable Active Hub	149

ADD-ON CARDS

SVGA 1 MB 16-Bit Video Card	$59
542VGA/WIN Acc.	99
VGA 256K 8-Bit	16
2400 Baud Modem	27
9600/2400 Fax Modem	48
IDE Controller w/2S, 1P, 1G	18
IDE Controller Card	13
MCGP	13

MOTHERBOARDS

486/66-256K	$635
486/50-256K	549
486/33-64K	394
386/40-64K	139
386/40-8K	119
386SX/33	79
486/33-256K VESA LOCAL BUS	479

TERMS & CONDITIONS

1. 1 Year parts & labor warranty on systems
2. Prices & availability subject to change w/o notice
3. Shipping, insurance and COD charges are additional & non-refundable
4. Return shipping must be insured and bearing a RMA # on the shipping label
5. Defective items replaced or repaired at our discretion
6. Not responsible for typographic
7. All returns are subject to 15% restocking fees and cover only computers, excludes peripherals. No refunds after 30 days.
8. Government & Corporate purchase orders are welcome

MOBILE WORLD

Applying Mobile and Pen-Based Computing to Today's Business Needs

SAN JOSE • SEPTEMBER 21 - 23, 1993

Hear from over 70 experts including:

Barton Goldenberg
ISM, Inc.

Tim Bajarin
Creative Strategies Research

Bob Mechaley
McCaw

Martin Levetin
BAM Mobile Data

Harriet Donnelly
AT&T

John Roemer
PCMCIA

Lane Strong
[illegible]

Alan Cooper
Cooper Software, Inc.

Pat Richardson
Motorola

Amy Wohl
Wohl Associates

Chuck Ashman
[illegible]

David King
[illegible]

Jim Valeris
[illegible]

5 Conferences in 1 Event Covering the Critical Issues and Solutions, including:

- Selecting the Right Mobile Technologies
- Enhancing Business Performance through Mobile Computing
- Increasing Sales by Automating Your Sales Force
- Building Applications for Pen-Based Computers
- Facilitating Organizational Acceptance of Your Mobile Computing Strategy
- Successful Mobile Applications: Step by Step User Stories from ITT Hartford, New York Life, Con Edison, UPS

Conference Highlights

- Blue Ribbon Panel Featuring Editors from *Mobile Office Magazine, US News & World Report,* and *Forbes Magazine*
- Communications Debate: Cellular vs. Radio
- Pen Operating Systems Debate: PenPoint vs. Windows for Pens vs. PenDos vs. OS/2 for Pen
- Legislative and Regulatory Issues Panel
- Mobile Computing Exposition Featuring Over 100 Key Industry Leaders

Call (508)470-3880
to receive a complete brochure.

Sponsored by:

DCI

Technical Co-Sponsors

Mobile Office Magazine
Computerworld
Network Computing
Computer Reseller News
PenVision

Industry Co-Sponsors

CIC
Fujitsu Personal Systems, Inc.
GRiD Systems Corp.
Hewlett-Packard Company
IBM Corporation
Intel Corp.
Kyocera Industrial Ceramics Corp.
MicroSlate, Inc.
Microsoft Corp.
NEC Technologies, Inc.
Notable Technologies, Inc.
Plastics Technology Center
Tusk, Incorporated
WildSoft Inc.

02A7MK

DATA RECOVERY

authorized service center

Drives • Tapes • Optical Media

We offer service on multiple platforms - DOS, Novell, Macintosh, UNIX, XENIX, Banyan, OS/2, Sun, Bernoulli and More!

Our custom data recovery increases your chance for a successful recovery. Our specialized techniques include:

- Class 100 Clean Room
- Proprietary Software Tools
- Recovery of Hard Drives, Tapes and Optical Media
- Novell Netware Fixtures/Software Tools
- Data Protection Safeguards

GIGABYTES

TEL: (510) 440-8032 FAX: (510) 440-9099

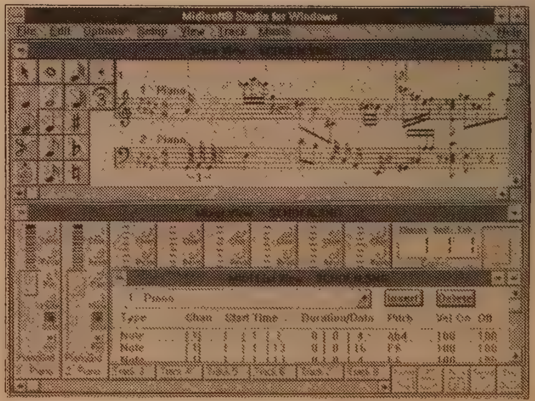
PC SOFTWARE

ALPHA FOUR V3.0

Alpha Four is a menu-driven relational database management system for the PC. It was designed to be easy to learn and use and to enable individuals in small businesses and the departmental level of large businesses to develop customized, sophisticated database applications without programming. Version 3.0 introduces significant benefits for developers, such as interactive development tools making application building faster and less expensive. Other new features include multi-file data entry, scrollable regions, real-time posting, cascading lookup tables, and database lookup and summary functions. Both the standalone and network versions work on any 286 or newer PC running DOS 2.0 or above. (Single-user version is $495; Networkable multiuser version is $595) Alpha Software Corp., 168 Middlesex Turnpike, Burlington, MA 01803. (617)229-2924.

MIDISOFT STUDIO FOR WINDOWS 3.10

Studio for Windows is aimed at amateur musicians of all skill levels and multimedia enthusiasts who want to edit and incorporate MIDI music into their productions. Studio combines MIDI sequencing real-time display of standard music notation during recording, editing, and playback, together with music score printing in the same program. Enhancements for v3.10 include a Mixer View that provides—for each of thirty-two thousand tracks—easy point-and-click adjustments for loudness, panning, mute, solo, and



Continued on page 279

We take corporate matters into our own hands.

We've tailored our Corporate Department to meet the very demanding needs of buyers and professionals of Corporate America. How you look depends on how well the suppliers you choose and recommend perform. We offer you a clear choice over the competition; here is why...

For the Service:

☐ Fast account approval and setup. Pre-approved Accounts for all Fortune 1000 companies, Government Branches, Universities and Educational institutions.
☐ Easy ordering.
☐ Professional and knowledgable sales staff.
☐ Same day pickup at our Will Call window, without waiting.
☐ Same day delivery available.
☐ Same day shipping available.
☐ Direct swap of RMAs on most items within the warranty period.
☐ Our Santa Clara R&D Facility is designed to produce the highest quality Systems and Sub-systems, one or one thousand.
☐ Personal Service tailored to each Corporate Account by your own inside customer service representative.

For the Price:

☐ We offer the most competitive prices in the industry.
☐ Local Support and Service at Mail-order prices
☐ Special Discounts on most items reserved only to Open Accounts.
☐ For our Corporate Customers, we offer special programs that allow discounts to their employees.

22 pages of Computer Products to follow...

For the Selection:

☐ We offer more options in Memory Storage devices (i.e. Hard Disk Drives, CD ROMs, Tape Backups, ..etc.) than any other store Nationwide.
☐ Full line of High-end Video Displays and Cards.
☐ High Quality Systems and Sub-Systems customized to your needs and specifications

For the Reputation:

☐ NCA /HDSS is a local, national and worldwide supplier of the highest quality brand name computer products.
☐ Well over 30% of the Fortune 1000 Companies and 100s of Government and Educational institutions around the country trust their business to NCA /HDSS.
☐ NCA's proven record of expansion is the results of superior service and commitment to continue such a tradition.

NCA *CORPORATE*

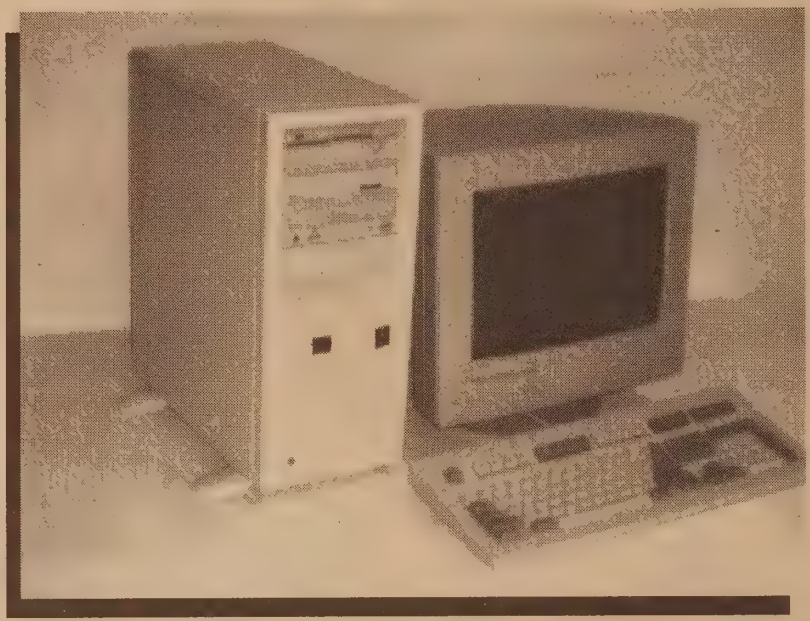
408•522•8672

P.O. FAX (408) 739-2420

©1993 INVERSE CORPORATION

Customize to your needs

With 22 Pages Of Options to Add On



Monitor and additional accessories shownare not included.

Alexis 340

$299

386DX-40
Mini Tower System

- AMD 386DX-50MHz
- 128K Cache (upto 256K)
- Mini Tower with 230W Power
- TEAC Floppy Drive 1.2 or 1.44
- IDE Controller 2FD/2HD
- I/O: 2 serial, 1 Parallel, 1 Game
- 101 Mitsumi Keyboard
- Clock & Calender
- 0MB RAM (up to 32MB)

(Not Pictured)

Alexis 440

$429

Above with Cyrix 486DLC-40
MiniTower System

Alexis 452VL

$499

486SLC-2 /50MHz VESA
Medium Tower

- Alaris Motherboard, Manufactured by IBM
- IBM 486SLC-2/50MHz CPU
- 2 Local Bus 32-Bit Slots
- 7 16-Bit Slots, 1 8-Bit Slot
- 128K Cache
- Medium Tower with 250W UL power Supply
- TEAC Floppy Drive 1.2 or 1.44
- IDE Controller 2FD/2HD
- I/O: 2 serial, 1 Parallel, 1 Game
- 101 Mitsumi Keyboard
- Clock & Calender
- 0MB RAM

(ADD $30 FOR CO-PRO)

Alexis 462VL

$599

Above w/ Alaris 486SLC-2/66MHz
MotherBoard

Value, Value, & More Value

Standard on our Alexis 486-DX Series

- Medium Tower with 9 bays
  - 4 Exposed 5.25" Bays
  - 2 Exposed 3.5" Bays
  - 3 Hidden Bays
- 250W UL Approved Power Supply
- Intel 486 Processor
- High Quality Well Designed Case
- 8 16-Bit Slots Motherboard
- 2 VESA Local Bus Slots
- ZIF Socket for Future Upgrade of CPU to Pentium Over Drive
- 128K Cache (to 256K)
- TEAC Floppy Drive 1.2 or 1.44
- 101 Mitsumi Keyboard
- IDE Controller 2FD/2HD
- I/O: 2 serial, 1 Parallel, 1 Game
- 1 Year Warranty on Parts & Labor

Alexis 433VL

$599

486DX-33MHz VESA
MED TOWER SYSTEM

Alexis 450VL

$779

486DX-50MHz VESA
MED TOWER SYSTEM

Alexis 466VL

$839

486DX-33MHz VESA
MED TOWER SYSTEM

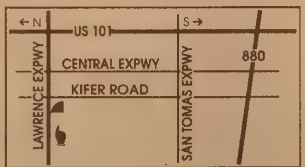
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

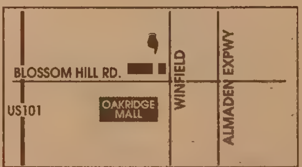
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:

(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

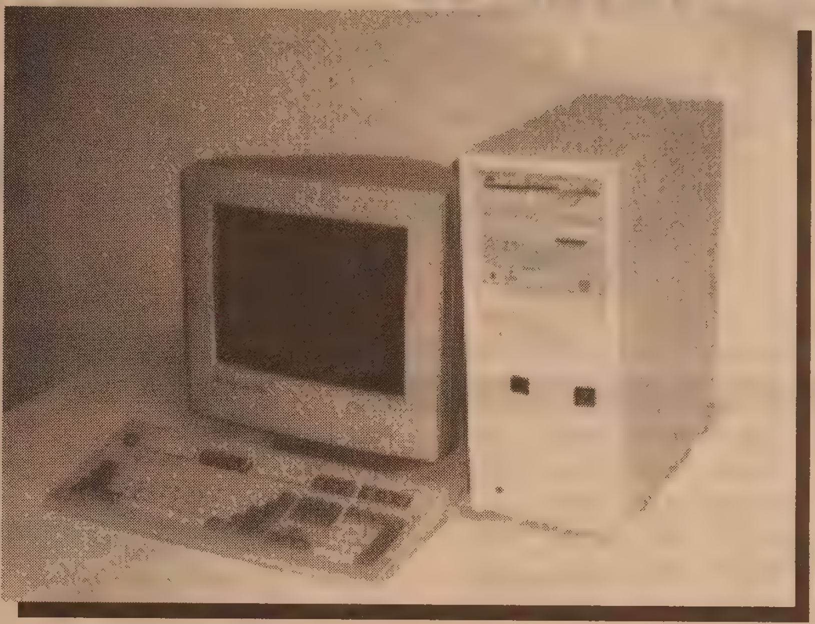
Alexis-II Systems

FEATURING

DIAMOND

FastBus VLB

Motherboards



Monitor and additional accessories shownare not included.

MADE IN THE USA

The Board

- Diamond FastBus VESA Motherboard
- 2-VESA Local Bus Standard Slots
- Intel CPU 486DX-33, 486DX-50, or 486DX/2-66
- ZIF Socket: Easiest, most effective upgrade
- 0 RAM up to 128MB on Board (uses True 32-bit, 72pin)
- Upgradable & Reprogrammable Bios
- 256K Write-Back Cache Memory
- Built-in IDE and Floppy Controller
- Built-in 2 Serial, 1 Parallel Port
- Socket for Weitek 4167 Co-Processor
- Chips & Technology 82C4021 Chip Set
- Up to 16MB/Sec I/O Transfer Rate

The Case

- Medium Tower
- 250W UL Approved Power Supply
- 9 Bays; 4 5.25" Exposed Bays
  2 3.5" Exposed Bays
  3 Hidden Bays
- High Quality Construction & Design

& More...

- Teac 1.44 or 1.2M Floppy Drive
- Mitsumi High Quality 101 Keyboard
- 1 Year Parts & Labor
- NCA's Quality & Service

Using world's fastest Motherboards *for* Windows & AutoCAD

intel inside

Alexis 433VL-II

$739

486DX-33 VESA
Med-Tower System

Alexis 455VL-II

$859

486DX/2-50 VESA
Med-Tower System

Alexis 450VL-II

$879

486DX-50 VESA
Med-Tower System

Alexis 466VL-II

$989

486DX/2-66 VESA
Med-Tower System

Customize to your needs...

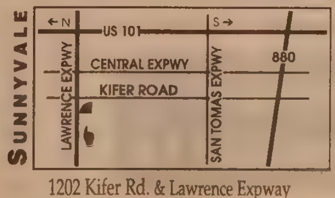
With 22 Pages Of Options to Add On

Your Computer Products Super Source

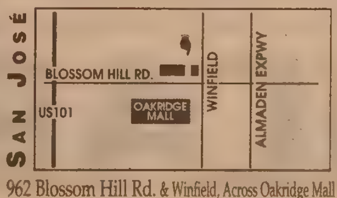
NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

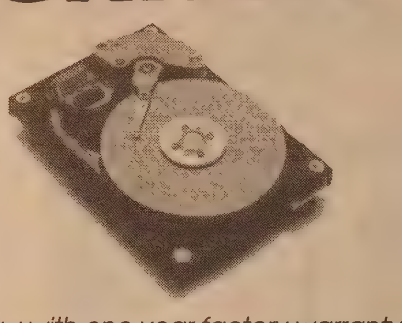
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

HARD DRIVE SUPER SOURCE

MORE

CONNER®



Brand new with one year factory warranty

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
80MB	CP30084	64K	19ms	3.5X1"	$164
120MB	CP30104H	32K	19ms	3.5X1"	$164
170MB	CP30174E	64K	17ms	3.5X1"	$179
212MB	CP30204	256K	12ms	3.5X1"	$229
250MB	CP30254	64K	14ms	3.5"X1"	$239
540MB	CP30544	256K	<12ms	3.5X1"	$599

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
170MB	CP30170	64K	17ms	3.5X1"	$249	$359
212MB	CP30200	256K	12ms	3.5X1"	$289	$399
540MB	CP30540	256K	12ms	3.5X1"	$649	$759

ALPS

1 Year Warranty

IDE

CAPACITY	SPEED	SIZE	PRICE
105MB	13ms	3.5X1"	$149

WESTERN DIGITAL

Accept only the finest...
Caviar
WESTERN DIGITAL

2-Year Warranty
3-Year Warranty on WD2340 & WD2420

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
170MB	WD1170	64K	<15ms	3.5"X1"	$209
212MB	WD2200	64K	12ms	3.5"X1"	$219
250MB	WD2250	32K	14ms	3.5"X1"	$239
340MB	WD2340	128K	12ms	3.5"X1"	$299
420MB	WD2420	128K	14ms	3.5"X1"	$449

TOSHIBA

BEST VALUE

Superior Quality and Value
Brand new with 5-year factory warranty

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
213MB	MK2224	X	17ms	2.5"	489	N/A
877MB	MK438FB	512K	12ms	3.5"	$839	$959
1.2GB	MK538FB	512K	12ms	3.5"	$959	$1079

IDE Notebook

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
213MB	MK224	X	17ms	2.5"	$429
340MB	MK2326	X	17ms	2.5"	$599

SAMSUNG Electronics

2 Year Warranty

IDE

CAPACITY	SPEED	SIZE	PRICE
120MB	17ms	3.5X1"	$159
250MB	15ms	3.5X1"	$239

digital™

Digital Equipment Corporation

High End, High Capacity

5-YEAR WARRANTY

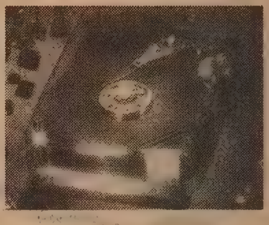
***Fast* SCSI-II**

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
1.0GB	3105S	3.5"	5400	9.5ms	$1099	$1229
1.6GB	3160S	3.5"	5400	9.5ms	$1399	$1539
2.0GB	5200S	FH	3600	12.5ms	$1699	$1899
3.5GB	5350S	FH	5400	11.5ms	$2999	$3199

HEWLETT PACKARD

2.1GB 3.5"

FORMATTED CAPACITY
FAST SCSI-II



- C2490
- 8.9ms seek time
- 6400 RPM
- 500,000 MTBF
- 5-Yr Warranty
- 57 Mbits/sec transfer rate
- Up to 20Megabytes/sec (synchronous)

$2199

EXTERNAL.... $2419

Brand new with 5-year factory warranty

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
1.0GB	C2247	256K	10ms	3.5"	$1049	$1169
1.0GB	C97558	256K	13ms	FH	$1399	$1599
1.8GB	C3009	256K	11.5ms	FH	$1999	$2199
2.0GB	C3010	256K	11.5ms	FH	$2299	$2499

Ask About...

EXPRESS EXCHANGE

OPTIONAL SERVICE

&...

EXTENDED WARRANTY

OPTIONAL SERVICE

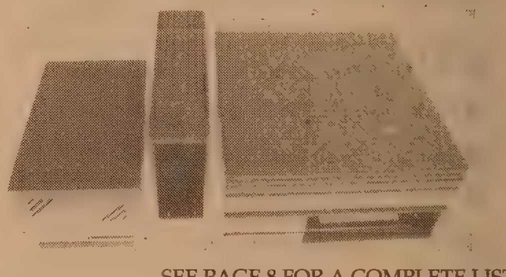
FULL SERVICE CENTER

- Complete installation center for PC and MAC
- Same Day Service
- Hard Drive and Memory installation

NCA's High Quality

EXTERNAL DRIVES

For MAC, SUN, NeXT, and IBM Compatibles
Complete with Cables, and formatting Software for Mac



SEE PAGE 8 FOR A COMPLETE LIST

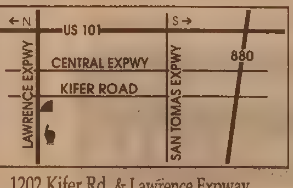
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

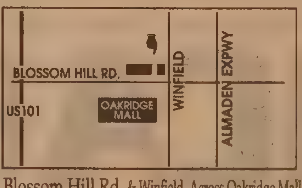
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

HARD DRIVE SUPER SOURCE

MORE

Quantum™

Specify Quantum, Specify Quality

JUST ARRIVED...

1.8Gb SCSI-II

$1449

BRAND NEW WITH A TWO YEAR FACTORY WARRANTY FIVE YEARS ON PD SERIES ONE YEAR ON 2.5" DRIVES

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	PRICE
120MB	GO120	32K	16ms	FOR NOTEBOOKS	........$259
160MB	GO160	32K	16ms		............$369
85MB	ELS85A	32K	17ms	3.5X1"	........$165
127MB	ELS127A	32K	17ms	3.5X1"	........$174
170MB	ELS170A	32K	17ms	3.5X1"	........$194
240MB	LPS240A	256K	*Fast*	3.5X1"	........$245
525MB	LPS525AT	256K	*FAST*	3.5X1"	........$599

SCSI

CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
120MB	GO120S	32K	*Fast*	FOR MAC POWERBOOKS		N/A
160MB	GO160S	32K	16ms			N/A
85MB	ELS85S	32K	17ms	3.5X1"	$179	$299
127MB	ELS127S	32K	17ms	3.5X1"	$199	$309
170MB	ELS170S	32K	17ms	3.5X1"	$219	$329
240MB	**LPS240S**	**256K**	***Fast***	**3.5X1"**	**$259**	**$379**
525MB	LPS525	256K	*Fast*	3.5"X1"	$599	$729
700MB	PD700	256K	*Fast*	3.5"	$779	$899
1.0GB	PD1050S	512K	*Fast*	3.5"	$929	$1049
1.2GB	PD1225S	512K	*Fast*	3.5"	$999	$1129
1.8GB	PD1800S	X	*Fast*	3.5"	$1449	$1569

HARD CARDS

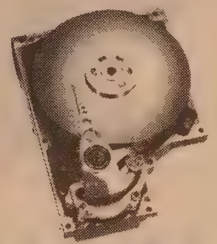
COMPLETE KITS PLUG & PLAY, 16-BIT

240MB	HARD CARD	EZ240	$439

▶ FACTORY NEW WITH FULL FACTORY WARRANTY

Seagate

BARRACUDA SERIES



BARRACUDA I / 1.6GB
ST11950N
INTERNAL **$1799**
EXTERNAL $1929

BARRACUDA II / 2.1GB
ST12550N
INTERNAL **$2499**
EXTERNAL $2629

- ▶ 3.5"
- ▶ 7200RPM
- ▶ 500,000MTBF
- ▶ Fast SCSI-II, 8ms

IDE

CAPACITY	M/N	CACHE	SPEED	SIZE	.....PRICE
42MB	ST351A/X	32K	28ms	3.5X1"	..........$129
107MB	ST3120A	32K	15ms	3.5X1"	..........$175
130MB	ST3144A	32K	15ms	3.5X1"	..........$189
245MB	ST3283A	128K	12ms	3.5X1"	..........$309
340MB	ST3390A	256K	*Fast*	3.5X1"	..........$369
450MB	ST3550A	X	12ms	3.5X"	..........$499

SCSI

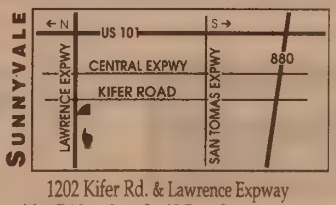
CAPACITY	M/N	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
245MB	ST3283N	128K	12ms	3.5X1"	$349	$459
450MB	ST3550N	256K	12ms	3.5X1"	$599	$729
525MB	ST3600N	256K	12ms	3.5X1"	$699	$799
1.0GB	ST11200N	256K	12ms	3.5"	$949	$1059
1.0GB	ST41200N	256K	14ms	FH	$999	$1199
1.3GB	ELITE-I	256K	11ms	FH	$1699	$1899
1.4GB	ST41651	256K	14ms	FH	$1279	$1479
1.9GB	ST42100N	256K	14ms	FH	$1599	$1799
2.1GB	ST12400N	256K	10ms	3.5"	$2099	$2129
2.0GB	ELITE-II	256K	11ms	FH	$1899	$2099
2.9GB	ELITE-III	512K	11ms	FH	$2399	$2599
2.9GB	ST43401N	Fast-Wide SCSI-II			$2499	$3699

Seagate and the Seagate logo are registered trademarks and Elite is a trademark of Seagate Technology Inc.

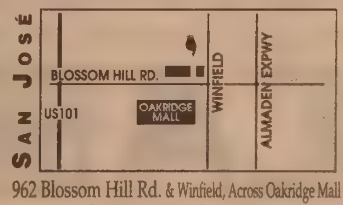
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX**(408) 739-2420**

©1993 INVERSE CORPORATION

HARD DRIVE SUPER SOURCE

MORE

Maxtor®

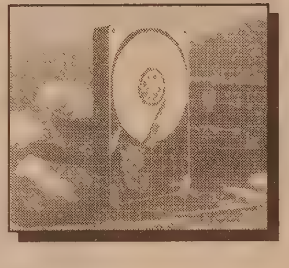
Novell Labs Tested & Approved

345MB IDE

LOWEST NCA PRICES EVER

- Model 7345A
- 3.5"X1"
- 14ms

$299



FAST SCSI-2

SUPER FAST MXT SERIES

540MB

- MXT-540S/Fast SCSI-II
- 8.5ms Access Time
- 3.5"X1"
- 256K Cache
- 6300RPM
- 300,000MTBF
- 2-Yr. Warr.

IDE $889 **$779**

1.2GB (FORMATTED CAPACITY)

- MXT-1240S
- 8.5ms Access Time
- 3.5"
- 256K Cache
- 6300RPM
- 300,000MTBF
- 3-Yr. Warr.

$1239

IDE

	MODEL	CACHE	SPEED	SIZE	INTERNAL
128MB	25128A	32K	14ms	for Notebooks	.....$259
131MB	7131A	64K	14ms	3.5X1"	.....$179
245MB	7245A	64K	15ms	3.5X1"	.....$229
345MB	7345A	64K	14ms	3.5X1"	.....$299
540MB	MXT-540A	256K	8.5ms	3.5X1"	.....$779

SCSI

	MODEL	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
245MB	7245S	64K	15ms	3.5X1"	$269	......$379
345MB	7345S	64K	14ms	3.5X1"	$395	......$519
540MB	**MXT-540S**	**256K**	**8.5ms**	**3.5X1"**	**$779**	**......$889**
1.2GB	**MXT-1240S**	**256K**	**8.5ms**	**3.5"**	**$1239**	**...$1349**
1.0GB	PO-12S	256K	13ms	FH	$899	....$1099
1.5GB	P1-17S	256K	13ms	FH	$1139	...$1339

THE FULL MAXTOR LINE IS AVAILABLE AT
YOUR HARD DRIVE & MULTIMEDIA SUPER SOURCE™

Novell Labs Tested & Approved

5-YEAR WARRANTY

FUJITSU®

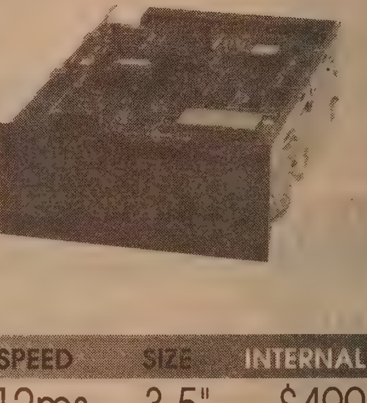
520MB 3.5"

- 3.5" HH Drive
- 11ms Seek Time
- 240K Read/Write Cache(SCSI)
- 5-Year Warranty

LOWEST NCA PRICES EVER

IDE.. $649
M2624T

SCSI.. $649
M2624FA



IDE

	MODEL	CACHE	SPEED	SIZE	INTERNAL
425MB	M2623T	64K	12ms	3.5"	.....$499
520MB	M2624T	64K	12ms	3.5"	.....$649

SCSI

	MODEL	CACHE	SPEED	SIZE	INTERNAL	EXTERNAL
425MB	***M2623FA***	***240K***	***11ms***	***3.5"***	***...$629***	***....$749***
520MB	M2624FA	240K	11ms	3.5"	....$649	....$769
1.0GB	M2694ESA	256K	10ms	3.5"	....$999	..$1129
1.0GB	M2266SA	256K	14ms	FH	....$1079	.$1279
1.7GB	M2652SA	256K	11ms	FH	....$1749	.$1949
2.0GB	M2654SA	256K	12ms	FH	....$1859	.$2059

THE FULL FUJITSU LINE IS AVAILABLE AT
YOUR HARD DRIVE & MULTIMEDIA SUPER SOURCE™

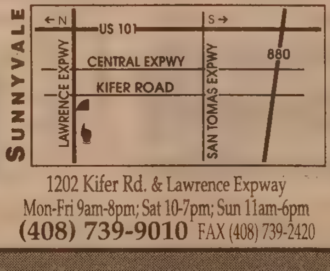
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

HARD DRIVE SUPER SOURCE

MORE

MICROPOLIS

Brand new with 5-year factory warranty

Novell Labs Tested & Approved

NEW PRODUCT

1.75GB 3.5" IDE or SCSI

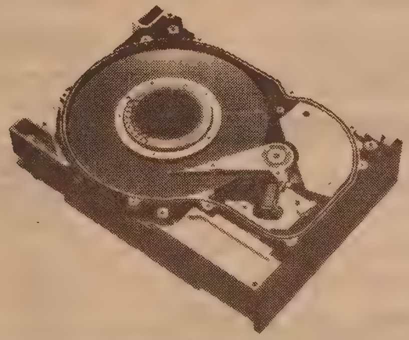
- MC2217
- 10ms Seek Time 5400RPM
- 3.5"

■ IDE
or
■ SCSI

$1499

IDE

	MODEL	RPM	SPEED	SIZE	INTERNAL
1.0GB	MC2112A	5400	10ms	3.5"	.....$999
1.75GB	MC2210A	5400	10ms	3.5"	...$1499



SCSI

	MODEL	RPME	SPEED	SIZE	INTERNAL	EXTERNAL
670MB	MC1624	3600	14ms	HH	....$729	....$849
1.0GB	MC2112	5400	10ms	3.5"	....$999	..$1119
1.0GB	MC1598	3600	15ms	FH	.....$989	..$1189
1.3GB	**MC1528**	**3600**	**15ms**	**FH**	**....$999**	**..$1199**
1.4GB	MC1908	5400	11ms	FH	....$1699	...1899
1.75GB	MC2217	5400	10ms	3.5"	...$1499	.$1619
1.8GB	MC1548	3600	14ms	FH	....$1399	.$1599
2.0GB	MC1924	5400	11ms	FH	....$1999	.$2199
3.0GB	MC1936	5400	11ms	FH	....$2599	.$2799

RAIDION™

Fault-Tolerant Disk Arrays

RAID Level 5 Disk Subsystems
Includes: NOVELL or OS/2 Configuration Kits

LT1120	Lite 3X560MB Modules	.$4299
LT2100	Lite 3X2.1GB Modules	...$5200
RN2680	3X1.34GB Modules	.........$6599
RN3500	3X1.75GB Modules	.........$8299
RN4200	3X2.1GB Modules	...........$9599
RM6040	3X3.2GB Modules	.........$11999

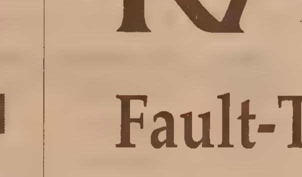
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expwayf
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

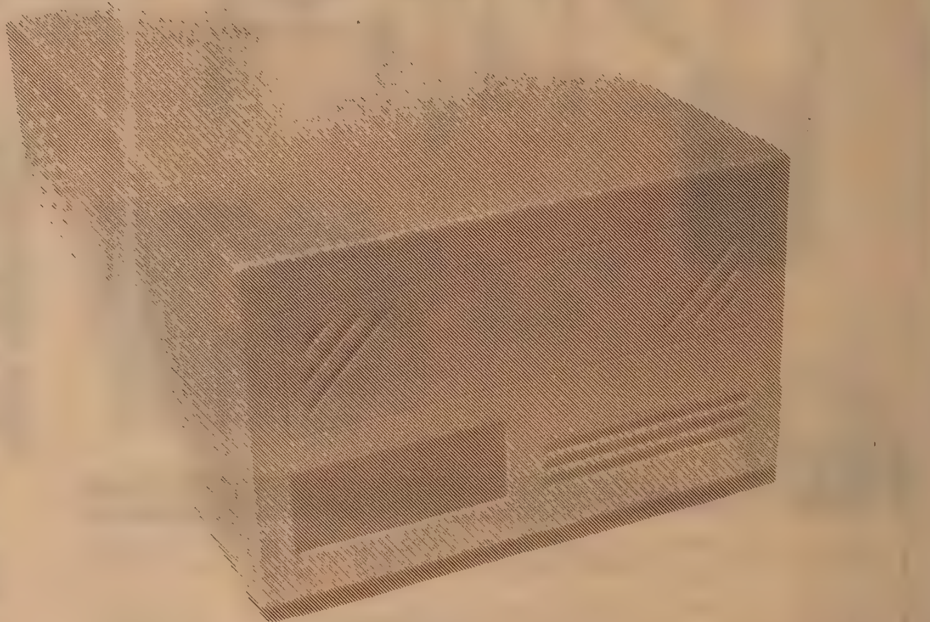
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

EXTERNAL SCSI SUPER SOURCE

NCA's HIGH QUALITY EXTERNAL SCSI SUB-SYSTEMS

for MAC, SUN, NeXT,
and IBM Compatibles



- High Quality External Cases.
- Sound Free Fan
- Top Manufacturers Quality SCSI Devices
- Universal Power Supply 110/220V
- 2 External Centronics Connectors
- Selectable SCSI ID.
- External Termination / includes a terminator
- SCSI Cable (Cent50-Cent50 or Cent50 to DB25)
- Power Cable
- Fully Tested and Approved
- Mac Formatting and Caching Software (upon request)
- External PC Kits Available

NCA's
BARRACUDA I

Half Height Enclosures
3.5" Fixed SCSI Disk Drives

SIZE Formatted	MAKE	SPEED	WARRANTY	PRICE
85Mb	Quantum	17ms	2Yr	$299
127Mb	Quantum	17ms	2Yr	$309
170Mb	Quantum	17ms	2Yr	$329
212Mb	Conner	12ms	1Yr	$399
240Mb	Qauntum	Fast	2Yr	$379
240Mb	Seagate	12ms	1Yr	$459
245Mb	Maxtor	15ms	2Yr	$379
345Mb	Maxtor	15ms	2Yr	$519
425Mb	Seagate	10ms	1Yr	$729
425Mb	Fujitsu	12ms	5Yr	$749
520Mb	Fujitsu	12ms	5Yr	$769
525Mb	Qauntum	Fast	2Yr	$729
525Mb	Seagate	10ms	1Yr	$799
540Mb	Maxtor	8.5ms	2Yr	$889
540Mb	Conner	12ms	1Yr	$759
700Mb	Quantum	fast	5Yr	$899
877Mb	Toshiba	12ms	5Yr	$959
1.0GB	Micropolis	10ms	5Yr	$1199
1.0Gb	Seagate	10ms	5Yr	$1059
1.0Gb	HP	10ms	5Yr	$1169
1.0Gb	DEC	9ms	5Yr	$1229
1.0Gb	Fujitsu	10ms	5Yr	$1129
1.2Gb	Qauntum	12ms	5Yr	$1129
1.2Gb	Maxtor	8.5ms	3Yr	$1349
1.2Gb	Toshiba	12ms	5Yr	$1079
1.6Gb	DEC	9ms	5Yr	$1539
1.6Gb	Seagate	8ms	5Yr	$1929
1.7Gb	Micropolis	10ms	5Yr	$1619
2.1Gb	Seagate	10ms	5Yr	$2129
2.1Gb	Seagate	8ms	5Yr	$2629
2.1Gb	HP	8.9ms	5Yr	$2419

NCAs
BARRACUDA II

Full Height Enclosures
FH Fixed SCSI Disk Drives

SIZE Formatted	MAKE	SPEED	WARRANTY	PRICE
1.0Gb	Micropolis	14ms	5Yr	$1189
1.0Gb	Seagate	14ms	1Yr	$1199
1.0Gb	Maxtor	13ms	2Yr	$1099
1.0Gb	Fujitsu	14ms	5Yr	$1279
1.3Gb	**Micropolis**	**14ms**	**5Yr**	**$1199**
1.4Gb	Micropolis	11ms	5Yr	$1899
1.3Gb	Seagate	11ms	1Yr	$1899
1.4Gb	Seagate	14ms	1Yr	$1479
1.5Gb	Maxtor	13ms	2Yr	$1339
1.8Gb	Micropolis	14ms	5Yr	$1599
1.7Gb	Fujitsu	11ms	5Yr	$1949
1.7Gb	HP	11.5ms	5Yr	$2199
1.9Gb	Seagate	14ms	5Yr	$1799
2.0Gb	Seagate	11ms	5Yr	$2099
2.0Gb	Micropolis	11ms	5Yr	$2199
2.0Gb	Fujitsu	11ms	5Yr	$2059
2.0Gb	HP	11.5ms	5Yr	$2599
2.0Gb	DEC	12ms	5Yr	$1899
3.0Gb	Micropolis	11ms	5Yr	$2799
2.9Gb	Seagate	11ms	5Yr	$2599
3.5Gb	DEC	11.5ms	5Yr	$3199

Combo SCSI Devices
Custom Configurations
Available

NCA's
BARRACUDA III

External
Non-Fixed SCSI Devices

SCSI BACKUP:

SIZE(UPTO)	MAKE	MODEL	TYPE	PRICE
250Mb	Archive	2150S	1/4"	$499
525Mb	Archive	2525S	1/4"	$699
1.3Gb	Archive	2750S	1/4"	$899
2.0Gb	Archive	4540NT	4mm	$1149
4.0Gb	Archive	4324NT	4mm	$1299
8.0Gb	Archive	4542NT	4mm	$1299
2.2Gb	Exabyte	EXB8200	8mm	$1749
2.2Gb	Exabyte	EXB8205	8mm	$1799
5.0Gb	Exabyte	EXB8500	8mm	$2549
5.0Gb	Exabyte	EXB8505	8mm	$2599
2.0Gb	HP	35470	4mm	$1149
8.0Gb	HP	35480	4mm	$1249
2.0GB	WangDat	3100	4mm	$1099
8.0Gb	WangDat	3200	4mm	$1199

MAC Backup Software	*add $ 79*
NovaBack for PC	*add $ 99*
NovaNet for 100+users	*add$449*

EXTERNAL SCSI CD ROMs:

MAKE	MODEL	ACCESS	TRANSFER	PRICE
TOSHIBA	3401B	200ms	330KB	$539
NEC	84-1	265ms	330Kb	$579
PANASONIC	532	290ms	200Kb	$449
CHINON	535	280ms	300Kb	$499
TEXEL	5024	265ms	300Kb	$449
PIONEER	604X	300ms	612Kb	$1199
TEAC	CD-50	265ms	300Kb	$459

Also Available:
External OPTICALS & Removable Cartridges by:
Syquest, Bernoulli, Maxoptix, Fujitsu, Ricoh
(See Pages 10,11 &12)

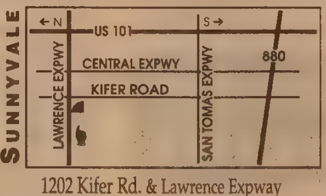
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

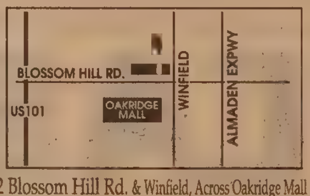
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

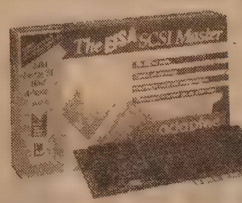
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

CONTROLLERS SUPER SOURCE

SCSI CONTROLLERS

adaptec



SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
1410	CD ROM 16-BIT -SCSI CARD KIT	$99
1522	16-BIT 7HD/2FD KIT	$148
1542C	BUS MASTER COMPLETE KIT	$248
1542C+	BUS MASTER KIT WITH COREL SCSI	$314
1640	MICROCHANNEL FOR PS/2, 7HD	$319
1742	EISA KIT, 32 BIT, 7HD/2FD	$419
2742	EISA KIT, 14HDÆS ••NEW••	$439

aaa always technology

Easiest to use, PLUG & PLAY with CD Drivers

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
IN2000	16 BIT 7HD/2FD "Easiest to use"	$179
IN2000	PRO WITH COREL SCSI	$215
AL1000	SCSI TO PARALLEL	$159
AL1000	PRO ABOVE WITH COREL SCSI	$185

BUSLOGIC

SCSI CONTROLLERS FOR POWER USERS

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
BT542	BUSMASTER SCSI-II KIT	$229
BT445	VESA SCSI-II KIT	$299
BT545KT	BUSMASTER Fast SCSI	$229
BTB742KT	EISA SCSI-II Kit	$349
BTB747AK	EISA Fast SCSI Kit	$399

PROMISE TECHNOLOGY INC. Caching Controllers

<0.3 ms, Fast, Uses Standard 256K, 1X9, 4X9 Simm Modules

SCSI CONTROLLERS

DC-2040 CACHING 16-BIT SCSI-ISA $179
W/0MB (UP TO 16M)

FUTURE DOMAIN®

PLUG & PLAY

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
TMC850	8-BIT W/BIOS	$59
TMC1670	SVP 16-BIT SCSI VALUE PAK	$149
TMC1680	SVP 16-BIT VALUE PACK 7HD/4FD	$159
TMC1680	DNK 16-BIT 7HD/4FD FULL KIT	$239

TRANTOR®

FULL KITS W/DRIVERS FOR CD-ROM/OPTICAL... ETC.

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
T130	8-BIT, 7HD w/ SCSI works	$79
T228	MICROCHANNEL, 7HD	$139
T338	PARALLEL PORT to SCSI ADAPTER	$109
T348	PARALLEL PORT to SCSI PLUS	$149

TRANTOR SCSI Works
ASPI Device Drivers For:
CD-ROMs, Photo CD, Tape Drives, Syquest, Opticals, Scanners, Hard Drives
TAPEMATE II Back-up software & Music Box-Audio CD Software
$59

UltraStor

SCSI CONTROLLERS

MODEL	DESCRIPTION	PRICE
14F	FD/HD (10MB/SEC)	$199
24F	EISA, 64K, *Fast* (33MB/SEC)	$369
34F	VESA Local Bus Controller	$279

IDE CONTROLLERS

STANDARD IDE

IDE CONTROLLERS

MODEL	DESCRIPTION	PRICE
200	2HD/2FD CONTROLLER W/CABLES	$14
211	2HD/2FD W/2SERIAL, 1PAR, 1GAME	$23
NCL53	SMART CONT. W/BIOS EASY INSTALL	$49
223	**2HD/2FD for VESA LOCAL BUS I/O**	**$59**
15C	CACHING (UP TO 8MB), 2HD, 2FD **UltraStor**	$199

PROMISE TECHNOLOGY INC. Caching Controllers

0.3ms *Fast* *Uses Standard SIMMS*

IDE CACHING CONTROLLERS

MODEL	DESCRIPTION	PRICE
DC-100	CACHING with I/O	$119
DC-200	**CACHING (0MB, up to 16MB) 4HD/2FD**	**$99**
DC-4030	VESA LOCAL BUS (0MB up to 16MB) 4HD/2FD/1 tape	$139

gsi™

Increases Performance of IDE Drives, Floppy Drives, & doubles transfer rate on Floppy Tape Back-ups

◆ Easy Set-up ◆ High Performance ◆ Plug & Play

MODEL	DESCRIPTION	PRICE
18V	CO-EXIST, HIGH PERF. IDE card	$49
21V	2HD (WITH BIOS), 4FD (UP TO 2.88M)	$59

ORCHID

IDE VLB (VESA LOCAL BUS)................$79

WONDER 16550 IDE CARD

2 IDE DRIVES
2 FLOPPY
2 HIGH SPEED 16550 SERIAL PORTS
1 PARALLEL PORT / 1 GAME

$79

QUICKPATH

PORT-FOLIO 16550

13-Port Super I/O Card
4 INTERGRATED NS16550 HIGH SPEED UARTs

2 IDE HD
2 Parallel
4 Serial
4 Floppy
1 Game

$129

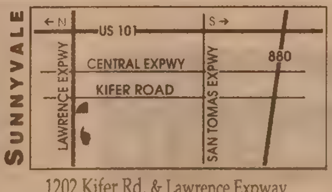
Your Computer Products Super Source

NCA Computer Products

POs

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ

BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

OPTICALS SUPER SOURCE

FUJITSU®

Optical Advantage

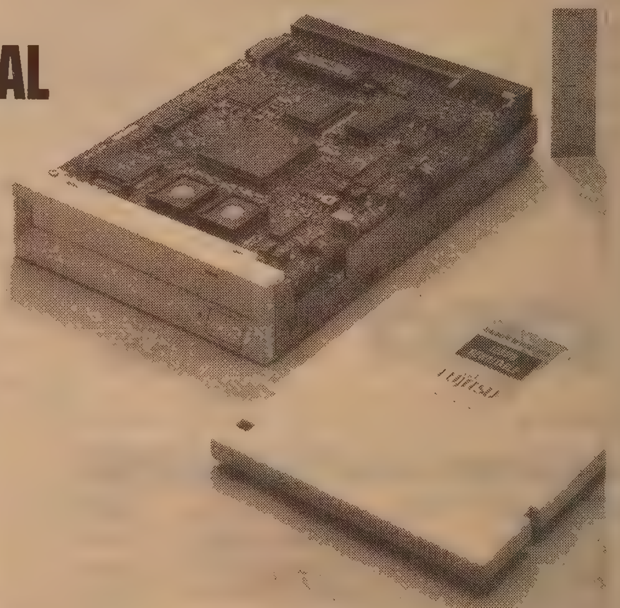
- 128MB Removable Optical Diskette
- Rewritable
- 3.5" Diskette Size of Floppy
- Unlimited Storage
- Ideal For Data Mobility
- Fast Access time & Data Transfer
- ISO Standard

128MB REWRITABLE, REMOVABLE OPTICAL SCSI DRIVES

INTERNAL 128MBYTE, 3.5" REWRITABLE OPTICAL

- Bare Optical Drive
- 2511A
- Low Profile, only 1"
- Fast 30ms Seek Time
- 3600RPM
- 256K Cache

$799

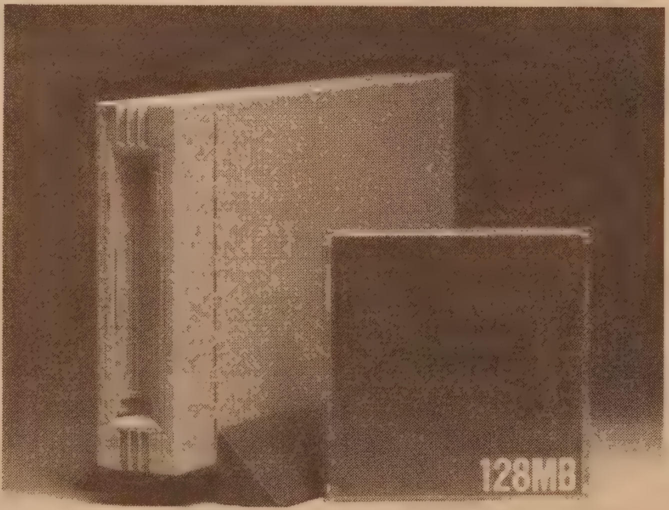


Cartridge sold separately

DynaMO™ 128

EXTERNAL SCSI 128MBYTE, 3.5" REWRITABLE OPTICAL

FOR MAC OR IBM



- External Optical Drive
- Using 2511A Internal
- Includes 1 Cartridge
- Fast 30ms Seek Time
- 3600RPM
- 256K Cache
- Software for MAC (free upon request)

$899

OPTICAL CARTRIDGES

CAPACITY	SINGLE	5-PACK
128MB Fujitsu	$49	$239
128MB Maxell	$42	$199

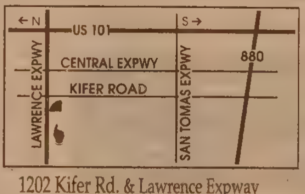
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

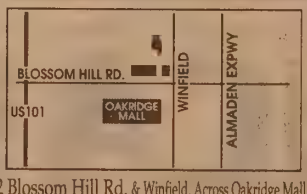
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government,
Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

REMOVABLE SUPER SOURCE

OPTICALS

NEW!

HEWLETT PACKARD

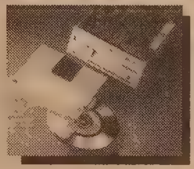
1.3GB OPTICAL REWRITABLE SCSI

- C1716, SCSI 1.3GB

INTERNAL	EXTERNAL WITH CARTRIDGE
$CALL	$CALL

TEAC

128MBYTE, 3.5" REWRITABLE OPTICAL

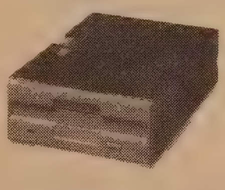


- 3000 RPM
- 3.5" Half Height
- 128K Cache
- 42ms Seek Time
- SCSI-II

INTERNAL	EXTERNAL WITH CARTRIDGE
$749	$899

RICOH

128MBYTE, 3.5" REWRITABLE OPTICAL



- Shielded case
- 3000 RPM
- 256K Cache
- Approx. 40ms
- SCSI-II

INTERNAL	EXTERNAL WITH CARTRIDGE
$739	$899

FLOPPY DRIVES

TEAC

FLOPPY DRIVES

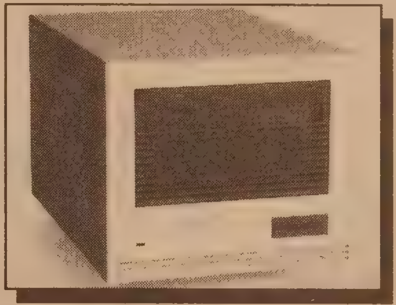
DRIVE FORMAT	PRICE
1.2MB	$57
1.44MB with 5.25" Kit	$55
1.2/1.44MB Dual Floppy	$149

TOSHIBA

2.88MB TOSHIBA Floppy Drive $59.00

Multifunction Magento-Optical Disk Drive for 1-Gbyte and 650-Mbyte Rewritable and WORM Disk Cartridges, With up to 4-Mbytes Read/Write cache

Maxoptix™



- Unlimited Data Storage
- External SCSI Subsystem
- One year factory warranty
- 25-Year life of Glass Media
- Embedded SCSI/SCSI-2
- Data Transfer of up to 13.2Mbit/Sec.
- Ultimate Back-up for NOVEL (Ready-to-Boot Backup)

1GB CART. glass/poly $199

TAHITI IIM - Multifunction

- 1MB Read/WriteCache
- External SCSI
- 35ms

$2599

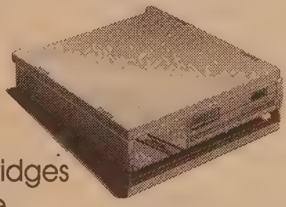
TAHITI IIM - Multifunction

- 4MB Read/Write Cache
- External SCSI
- 35ms

$2799

REMOVABLES

BERNOULLI



- SCSI Interface
- Removable Cartridges
- 18ms Access time
- 150MB, 105MB, 65MB, 35MB Capacity

BERNOULLI MULTI-DISK™ 150

PC Version	MAC Transportable
Ext. Multi-Disk 150™	Ext. Multi-Disk 150™
150MB Cartridge	150MB Cartridge
Controller & S/w	MAC Software
$799	$799

90MB BERNOULLI REMOVABLE
PC VERSION ......$689 MAC Transportable ..$529

BERNOULLI CARTRIDGES	SINGLE	3-PACK
65MB	$79	$219
90MB	$159	$439
105MB	$109	$289
150MB	$159	$429

FLOPTICALS

IOMEGA®

21MB Floptical Drive

floptical®

MAC Version

INCLUDES:
- External 3.5" 21MB Floptical
- One Floptical Media
- Cables
- Software for MAC

$399

21MB MEDIA BY IOMEGA LASER ETCHED
SINGLE ......$19.99 5-PACK......$89.99

PC Version

INCLUDES:
- IOMEGA 21MB 3.5" Floptical
- One Floptical Media
- Host adapter SCSI 8-bit
- Cables
- Software for PC

INTERNAL	EXTERNAL
$369	$429

21MB MEDIA BY IOMEGA LASER ETCHED
SINGLE ......$19.99 5-PACK......$89.99

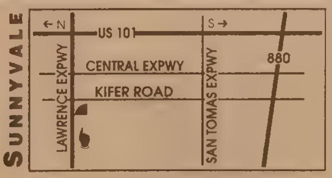
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

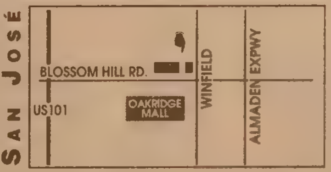
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

SyQuest TECHNOLOGY **SUPER SOURCE**

Incredible Sale

SyQuest TECHNOLOGY

- Removable Drive Cartridge, 44MB, 88MB, & 105MB ◀
- 20ms Access speed (14ms on 105MB) ◀
- Unlimited Storage ◀
- SCSI Embedded ◀
- For MAC or IBM ◀
- 2-Yr Warranty ◀

BARE DRIVES

LOWEST NCA PRICES EVER

44MB
- ▶ SQ555
- ▶ SCSI
- ▶ 20ms SEEK TIME
- ▶ 5.25" HH

$239

88MB
- ▶ SQ5110
- ▶ SCSI
- ▶ 20ms SEEK TIME
- ▶ 5.25" HH
- ▶ Reads 44MB
- ▶ Reads/Writes to 88MB

$289

88MB C
- ▶ SQ5110C
- ▶ SCSI
- ▶ 20ms SEEK TIME
- ▶ 5.25" HH
- ▶ Reads/Writes to 44MB &88MB

$339

EXTERNAL DRIVES

LOWEST NCA PRICES EVER

44MB
- ▶ EXTERNAL DRIVE
- ▶ 44MB CARTRIDGE
- ▶ STANDARD POWER CORD
- ▶ EXTERNAL CABLE
- ▶ INSTALLATION SOFTWARE (for Mac)
- ▶ PC Software included w/controller purchase

$389

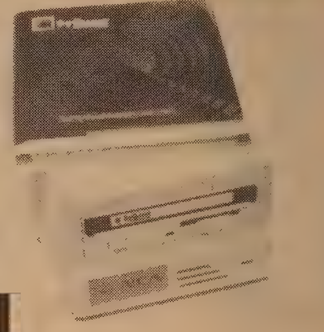
88MB
- ▶ EXTERNAL DRIVE
- ▶ 88MB CARTRIDGE
- ▶ STANDARD POWER CORD
- ▶ EXTERNAL CABLE
- ▶ INSTALLATION SOFTWARE (for Mac)
- ▶ PC Software included w/controller purchase

$459

88MB C
- ▶ EXTERNAL DRIVE
- ▶ 88MB CARTRIDGE
- ▶ STANDARD POWER CORD
- ▶ EXTERNAL CABLE
- ▶ INSTALLATION SOFTWARE (for Mac)
- ▶ PC Software included w/controller purchase

$489

105MB, 3.5" DRIVE

LOWEST NCA PRICES EVER


INTERNAL
- ▶ SQ3105
- ▶ 14ms SEEK TIME
- ▶ SCSI
- ▶ INSTALLATION SOFTWARE (for Mac)

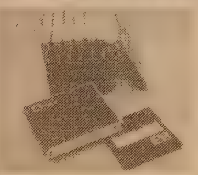
$449

105MB INT. IDE $389

EXTERNAL
- ▶ EXTERNAL SCSI DRIVE
- ▶ 105MB CARTRIDGE
- ▶ 14ms SEEK TIME
- ▶ STANDARD POWER CORD
- ▶ EXTERNAL CABLE
- ▶ INSTALLATION SOFTWARE (for Mac)

$629

CARTRIDGES



44MB	$63	$309
88MB	$95	$459
105MB	$85	$399

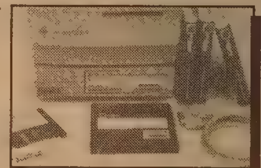
8-BIT CONTROLLER & SOFTWARE............$59

16-BIT CONTROLLER & SOFTWARE............$149

FOR ALL MACINTOSH MODELS*

COMPLETE, PREFORMATTED, PLUG & PLAY EXTERNAL KITS.

- ▶ EXTERNAL SYQUEST DRIVE
- ▶ CARTRIDGE
- ▶ CABLES (50C-Mac or 50C-50C)
- ▶ STANDARD POWER CORD
- ▶ FORMATTING SOFTWARE ($39 Value)



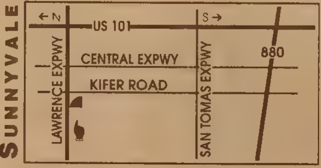
*Macintosh Plus or later

44MB SQ555	$389
88MB SQ5110	$459
88MB C SQ5110C	$489
105MB SQ3105	$629

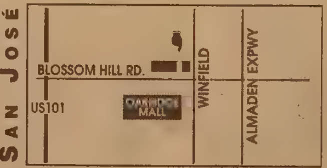
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS Price subject to change without notice, Limited quantity on Special Items Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE


1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ


962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

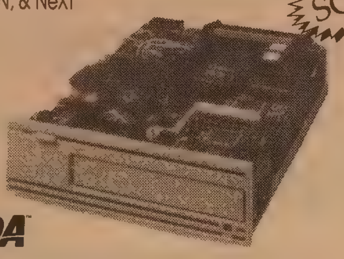
TAPE BACK-UP SUPER SOURCE

ARCHIVE

for IBM Compatibles, MAC, SUN, & NeXT

The BEST name in SCSI Back-up Drives

LOWEST NCA PRICES EVER



VIPER™

2150		2525	
◆ 250MB VIPER ◆ 6MB/MIN.		◆ 525MB VIPER ◆ 6MB/MIN.	
INT.	EXT.	INT.	EXT.
$349	$449	$599	$699

ANACONDA™

- ◆ 36MB/MIN
- ◆ SCSI-2
- ◆ 1/4" TAPE UNIT

1.3GB 2750	2.0GB 2800
INTERNAL $799	INTERNAL ...$1099
EXTERNAL $899	EXTERNAL ..$1199

PYTHON™

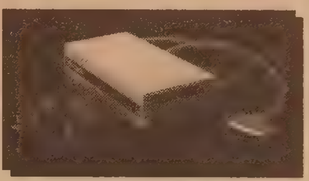
4324 TURBO PYTHON		4320NT		4542NT	
◆ 4GB DAT 4mm ◆ 1MB Cache Buffer		◆ 2.0GB DAT 4mm ◆ 11MB/MIN.		◆ 4-8GB DAT 4mm ◆ 11MB/MIN.	
INT.	EXT.	INT.	EXT.	INT.	EXT.
$1179	$1299	$1049	$1149	$1179	$1299

MicroSolutions

Computer Products

backpack

PARALLEL PORT
250MB
EXTERNAL
TAPE BACKUP



- ▶ QIC 80 Uses 2120 Tapes
- ▶ Software with Unattended Backups
- ▶ Twice as fast as internal tape

$329

ARCHIVE

RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	EXTERNAL
250MB	ARCXL 250 3.5X1"	$149
250MB	ARCXL 250 3.5"X1" with Tape	$179

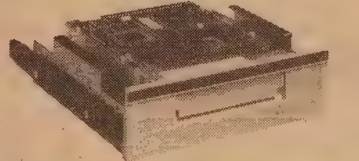
EXABYTE®

SUN compatible 8mm SCSI back up system

SCSI-8mm/4mm

CAPACITY	MODEL	SIZE	INTERNAL	EXTERNAL
2.2GB 8mm	EXB-8200	FH	$1499	$1749
2.2GB 8mm	EXB8205	HH	$1499	$1799
5.0GB 8mm	EXB-8500	FH	$2399	$2549
5.0GB 8mm	EXB-8505	HH	$2399	$2599
2.0GB 4mm	EXB-4200	3.5"	$999	$1149
5.0Gb 4mm	EXB-4200c	3.5"	$1099	$1249

COLORADO MEMORY SYSTEMS INC.



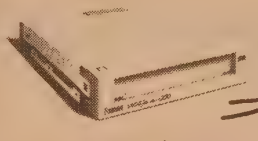
Uses 2120 Tapes

RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	INTERNAL
120MB	DJ10/IBM COMPATIBLE	$139
250MB	DJ20/IBM COMPATIBLE	$179

EXTERNAL KIT WITH CARD AND CABLES KE-10	$109
EXTERNAL TAPE PORT AB-11	$39
FC-10 TAPE CONTROLLER, WITH CABLES	$89
FC-15 HIGH PERFORMANCE 16-BIT CONTROLLER	$189

IOMEGA®



tape 250

RUNS OFF FLOPPY PORT

- ▶ 250MB Tape Back-up
- ▶ fits Standard 3.5" floppy bay
- ▶ Reads QIC Tape and Irwin tapes
- ▶ Central Point Software
- ▶ Windows Support

Tape 250 Insider **$189**

EXTERNAL
PC-POWERED........ $319

EXTERNAL TAPE 250 PARALLEL PORT $399

IOMEGA 250MB Formatted tapes
Single ....$29 **3Pack $79**

HEWLETT PACKARD

Setting the Standards

SCSI 4mm DAT

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.0GB	35470 DAT	$1049	$1129
4-8GB	35480 DAT	$1149	$1249

IRWIN®

An Archive® Company

RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	INTERNAL
120MB	ARC120	$139
250MB	ARC250	$189

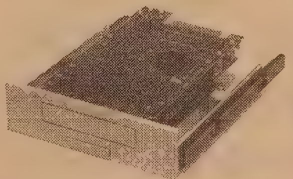
PARALLEL PRINTER PORT ***EXTERNAL*** TAPE BACK-UP

RUNS OFF PARALLEL PRINTER PORT

CAPACITY	MODEL/TYPE	EXTERNAL
120MB	AccuTRAK 120	$339
250MB	AccutRAK 250	$399

SUMMIT™

MEMORY SYSTEMS INC.



WITH CENTRAL POINT BACKUP SOFTWARE

RUNS OFF FLOPPY PORT

CAPACITY	MODEL/TYPE	INTERNAL
120MB	SE-120	$135
250MB	SE-250	$169

WangDAT™

SCSI QIC-Format

CAPACITY	MODEL	INTERNAL	EXTERNAL
250MB	5150 1/4" SCSI	$399	$499
525MB	5525 1/4" SCSI	$599	$699

SCSI 4mm DAT

CAPACITY	MODEL	INTERNAL	EXTERNAL
2.0GB	3100 DAT	$999	$1099
4-8GB	3200 DAT	$1099	$1199

TAPE CARTRIDGES

Refer to page 21 of this Guide

BACKUP SOFTWARE

NovaStor

BEST BACK UP SOFTWARE

DESCRIPTION	PRICE
NovaBack for DOS	$99
NovaBack for OS/2	$149
NovaNet-Server Based Software (up to 100 users)	$449
Sytos Plus™ for Adaptec (ASW-310)	$99

Trakker™

PARALLEL PRINTER PORT EXTERNAL TAPE BACK-UP SYSTEMS

RUNS OFF PARALLEL PRINTER PORT

CAPACITY	MODEL/TYPE	EXTERNAL
120MB	TRAKKER 120	$289
250MB	**TRAKKER 250**	**$359**

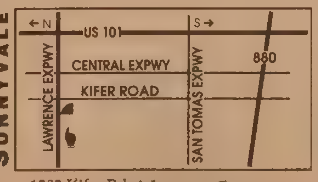
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

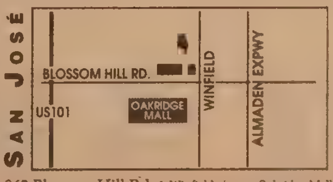
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

MULTIMEDIA SUPER SOURCE

MEDIA VISION

QUALITY COMMITMENT · 100% SATISFACTION GUARANTEED

PRO 16 MULTIMEDIA SYSTEM II

- Includes Pro Audio Studio With Voice Recognition
- KARAOKE, Compton Int. Encyclopedia, Mayo Clinic Carmen San Diego, Cicilization, Battle Chess, Mantis, Action

$859

PRO AUDIO SPECTRUM 16

- True Stereo Sound
- Advance 20 Voice Stereo Synthesizer
- MIDI Interface
- 7-Software Titles bundle

$149

PRO AUDIO STUDIO 16

- Above with voice Recognition
- Microphone & Software

$189

JUST IN PRO MOVIESTUDIO

- Real Time Video Capture / Real time Compression
- Supports NTSC/PAL/SECAM

$339

SUBSYSTEM CDPC XL

Fully Integrated Multimedia Component System

- External NEC Multispeed, 280ms, 300Kb/sec100W Power
- Amplifier, 20W per side & 60W of Power with
- Multimedia Source Analog Mixer
- MIDI Interface
- 4-Operator FM Synthesis
- Microphone
- Top CD-ROM Software Bundle

$1079

SUBSYSTEM CD PC . . $929

FUSION CD16

- ProAudio Spectrum 16
- Labtec CS-550 Speakers
- Sony CD-ROM (Int) NEC CD-ROM (Ext)
- Best Selection Software

INTERNAL ..$479
EXTERNAL ..$499

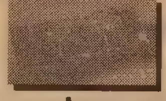
FUSION DOUBLE CD 16

- Internal NEC Double Speed 300KB/SEC
- Includes 7th Guest Software
- ProAudio Spectrum 16

$599

PROMOVIE SPECTRUM

- Display Live Video In a Movable Window *up to 30 frames per second*
- Capture Video Sequence
- Control Video Sources With Your Keyboard or Mouse
- No Hardware limitations
- S-Video & NTSC Inputs & Editing
- Software Bundle



$279

PORTABLE PC SOUND AUDIOPORT $129
MIDI MATE (EXTERNAL MIDI CONNECTOR BOX) $49

CREATIVE

CREATIVE LABS, INC.

SOUND BLASTER CD-ROM UPGRADE KIT

- CD-ROM 390ms
- Win.3.1, Bookshelf, Sherlock Holmes, Creative Sounds

INTERNAL ...$359

SOUND BLASTER MULTIMEDIA UPGRADE KIT

- Sound Blaster Pro
- MIDI Adapter
- CD-ROM 390ms
- Win. 3.1, Bookshelf, Works, Action Star, Tempra, Sherlock Holmes, Creative Sounds
- Speakers

INTERNAL ...$519
EXTERNAL ...$589

SOUND BLASTER EDUTAINMENT 16 CD UPGRADE KIT

- Sound Blaster 16
- 390ms CD-ROM
- Multimedia Encyclopedia, Animals, San Diego Deluxe, Just Grandma & Me, Sherlock Holmes, Monkey Island, Secret Weapons & loom.
- Speakers

INTERNAL ...$499

SOUND BLASTER DISCOVERY 8 CD UPGRADE KIT

- Sound Blaster
- 390ms CD-ROM
- Multimedia Encyclopedia, Animals, & lemmings

INTERNAL ...$399

Sound BLASTER

SOUND BLASTER

Sound Blaster Deluxe	$79
Sound Blaster Pro Deluxe	$129
Sound Blaster 16 /16ASP	$179/$199
Video Blaster	**$309**
Wave Blaster	**$222**
Video Spigot Windows	**$409**

AUDIO /VIDEO CARDS

ORCHID SOUND PRODUCER PRO

- Speakers & Microphones
- 9 Software Packages

$109

ViVa

Maestro 16 (see pg. 14)	$169
Maestro 16VR (voice Recognition)	$249

DIAMOND SONIC SOUND 16-BIT CD QUALITY SOUND CARD

- Digital Signal Processor with Wave Sample; 32 voice synthesis
- Hardware controlled voice recognition; standard SCSI CD ROM interface
- 3 Software Bundle

$239

AlTech AUDIOSHOW AUDIO & VIDEO

- VGA to PAL or NTSC; converts computer's output to TV or Video tape
- 16-Bit Stereo Audio with 4-Watt amplifier; CD Quality recording
- CD ROM interface. Joystick port, MIDI In/Out and built-in amplifier

$379.99

LOGITECH SOUND MAN 16

Advanced 20 Voice Stereo Synthesizer 16-Bit

$129

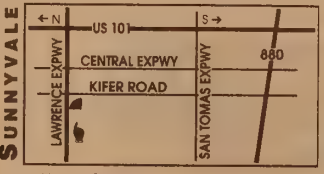
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

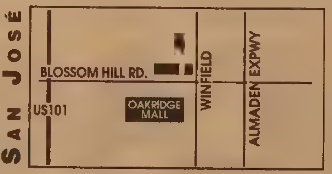
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

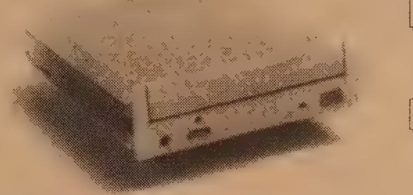
CD ROM SUPER SOURCE

TOSHIBA

XM-3401B

LOWEST NCA PRICES EVER

Fastest SCSI CD ROM Ever!!



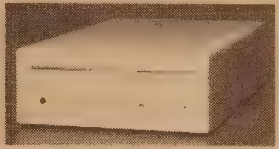
- ▶ 200ms, 330KB/SEC.
- ▶ SCSI CD-ROM
- ▶ MULTI-SPIN/MULTI-SPEED
- ▶ 256K CACHE

INTERNAL $419

EXTERNAL $539

CHINON

Top of the line SCSI-II CD ROM



CD-535

- ▶ SCSI-II CD ROM
- ▶ Multisession Photo CD
- ▶ XA Compatibles
- ▶ 256K Buffer
- ▶ 280ms
- ▶ Double Doors
- ▶ Sealed Mechanism

INTERNAL UNIT	INTERNAL KIT (with card & software)	EXTERNAL KIT (for MAC & IBM Comp.)
$389	$429	$489

CLEARANCE ITEM

TOSHIBA3101B CD ROM

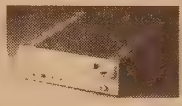
3101B SCSI 380ms $169
External 3101B CD Rom $279

SONY

31A CD ROM
CONTROLLER CARD
Cables and Software
$189

561 SCSI CD ROM
Double Speed
285ms /300Kb/Sec
256K Cache
$399

TEAC



CD-50
SCSI-II Fast CD ROMs
$349

DUAL SPEED
265ms / 335Kb/sec
Multi session photo CD
Anti-dust Construction

External
$459

Panasonic

Office Automation OA

CR522 CD ROM & CARD

- ▶ Includes Audio Card & CABLES
- ▶ 380ms
- ▶ 64K Cache

$209

CR562 CD ROM & CARD

- ▶ Includes Audio Card & Controller
- ▶ 320ms / 300KB/sec
- ▶ 64K Cache
- ▶ Double Speed /XA Comp.

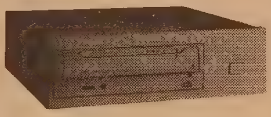
$269

CR532 SCSI CD ROM

- ▶ SCSI CD ROM
- ▶ 290ms
- ▶ 128K Cache (up to 256K)

$349

NEC



Next Generation SCSI fast CD ROMs

- ▶ MultiSpeed
- ▶ MultiSpin
- ▶ MultiSession
- ▶ Higher Performance

CDR-84-1 INTERNAL $439
CDR-74-1 EXTERNAL $579

TEXEL

- ▶ SCSI CD
- ▶ *FAST* 265ms
- ▶ Multi-Spin
- ▶ DM-3024
- ▶ INTERNAL W/ CADDY

$359

- ▶ DM-5024
- ▶ EXTERNAL W/CADDY

$459

Trantor T130 Controller with SCSI works..............$79

PIONEER®

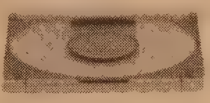
High Speed CD-ROM MiniChanger, featuring QUADRASPIN™, 612Kbyte/sec

- ▶ External SCSI/SCSI-2 Subsystem
- ▶ 6 CD ROM Magazine
- ▶ Software for MAC or IBM
- ▶ 300ms
- ▶ FAST 612KBytes/Sec

DRM-604X
$1199

CD CADDY

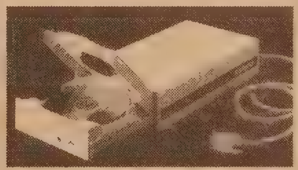
$6.99



MicroSolutions

Computer Products

backpack
CD-ROM drive



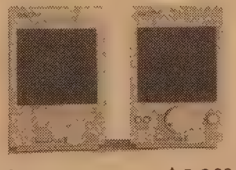
Parallel Port External CD-ROM Drive

- ▶ 128K Cache
- ▶ 350ms
- ▶ MultiSession Photo CD
- ▶ Ideal for Notebooks
- ▶ Device Drivers

$369

SPEAKERS

Labtec



CS 150 Amplified Speakers $18.99
CS 180 2.5" 90 DEGREE PIVOT........$22.99
CS 550 Amplified Speakers $27.99
CS1000 Under Monitor 5watt $89.99

ALTEC LANSING®

ACS50 Mini satellite $74.99
ACS100 Satellite, DSP circuitry $129.99
ACS300 Multipath acoustic chamber.........$279.99

AUDIO CABLES

For Most Popular CD-ROMs & Sound Cards

$6.99

MITSUMI

- ▶ MULTIMEDIA CD ROM
- ▶ INCLUDES 16 BIT CARD
- ▶ MPC READY / 350ms

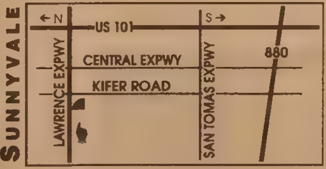
$179

Your Computer Products Super Source

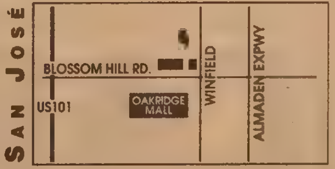
NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

CD-ROM TITLES

CUSTOMERS PLEASE NOTE: SOME CD-ROM TITLES ARE OEM AND SOLD AS BUNDLES* ONLY *(MUST BE SOLD WITH ANOTHER CD TITLE OR CD-ROM)

BUY ANY 5 CD'S FOR $110
BUY ANY 7 CD'S FOR $154

502	Anecdotes	$24.99
114	Animals 1.0	$24.99
503	Arthur Teaches Trouble	$24.99
504	Audubon's Birds	$24.99
506	Audubon's Mammals	$24.99
509	Batick Design	$24.99
115	Battle Chess	$24.99
590	Brain Drain	$24.99
117	Bring the World to Your Senses	$24.99
510	Business Master	$24.99
120	CD Story Time	$24.99
122	Chessmaster 3000	$24.99
121	CIA World Factbook	$24.99
515	CICA Windows	$24.99
221	Danger HOt Stuff CD ROM	$24.99
518	Danger, Hot Stuff 2	$24.99
126	Desert Storm	$24.99
128	DTP Pro	$24.99
519	Education Master	$24.99
129	Family Choice Britantica	$24.99
131	Family Education Collections	$24.99
523	font Master 1	$24.99
524	Font Master 2	$24.99
589	Futura	$24.99
527	Game Master	$24.99
528	Garbo MSDOS	$24.99
132	GeoVision	$24.99
530	Golden Immortal	$24.99
133	Great Cities of the World Vol. 1	$24.99
134	Great Cities of the World Vol. 2	$24.99
136	Guiness MPC Disc of Records	$24.99
531	Hacker Whacher	$24.99
205	Hawaii CD	$24.99
533	House of Games	$24.99
215	Illustrated Works Of Shakespeare	$24.99
534	Internet Connectivity	$24.99
135	International Graphics Library	$24.99
137	Jets & props	$24.99
138	Jones in the Fast Lane	$24.99
706	Just Fonts 250+ fonts	$24.99
139	King's Quest V	$24.99
537	Kiotski	$24.99
538	Lazer Tax	$24.99
588	Let's Play	$24.99
141	Loom	$24.99
145	Marketing Master 1992	$24.99
147	Mavis Teaches Typing	$24.99
542	Minerva III	$24.99
587	Mirror-Mirror	$24.99
156	Mixed up mother Goose	$24.99
226	Mother of all Clips Arts	$24.99
704	National Parks	$24.99
545	NightOwl Ver. 6	$24.99
546	NightOwl Ver. 7	$24.99
591	Oldies But Goodies	$24.99
159	Peter and the Wolf	$24.99
232	Phoenix CD V3.0 CD	$24.99
706	Power Tools Share ware programs	$24.99
558	REMStar	$24.99
207	ROMSoft Public Domain	$24.99
563	ROMWare	$24.99
564	Rotor	$22.99
169	Secret Weapons of Luftwaffe	$24.99
705	Simtel	$24.99
113	Stellar 7	$24.99
577	Terrorist Group Files	$24.99
708	The Right college	$24.99
707	the ultimate share ware collection	$24.99
175	Time Table of History	$24.99
592	Variety Store	$24.99
579	Visions of Saturn	$22.99
581	Windows Master	$24.99

OTHER CD ROM TITLES

206	7th Guest CD ROM	$59.99
111	Amanda Stories	$44.99
113	Annabel's Dreams	$79.99
123	Composer Quest	$44.99
216	Compton's MPC Encyclopedia	$99.99
264	Conan The Cimmerian CD ROM	$49.99
594	Dinosaur Adventure	$39.99
260	Food Analyst CD-ROM	$44.99
535	Just Grandma and Me	$69.99
600	Jutlang	$39.99
262	Languages of The World CD ROM	$44.99
140	Library of the Future 1st	$49.99
142	Lotus 123	$129.99
143	MacMIllian Dictionary for Dictionary	$44.99
601	Mantis	$59.99
148	Media Clips 4-Pack	$44.99
150	Microsoft Bookshelf	$69.99
151	Microsoft Works	$69.99
599	Star Vector	$49.99
266	Tempra Access photo CD Imaging	$44.99
217	Toolworks Illustrated Encyclopedia	$59.99
176	Toolworks Multimedia new Encyclopedia	$59.99
177	Total Baseball	$44.99
178	USA Wars : Civil Wars	$39.99
181	USA Wars : Vietnam	$39.99
180	USA Wars : WWII	$39.99
179	USA Wars: Korea	$39.99
185	Vital Signs	$99.99
596	World Vista	$49.99
595	Wrath of the Demon	$49.99

BUY ANY 5 CD'S FOR $69
BUY ANY 7 CD'S FOR $97

208	Bibles & Religion	$14.99
204	Clipart Goliath	$14.99
201	Colossal CookBook	$14.99
263	Complete Bookshop	$14.99
257	Deathstar Arcade	$14.99
238	Encyclopedia of Sound	$14.99
199	HAM Radio	$14.99
197	MPC Wizard	$14.99
230	Original Shareware	$14.99
198	Our Solar System	$14.99
258	Shareware Overload	$14.99
171	So Much Shareware I	$14.99
203	Sound Sensations	$14.99
202	Techno Tools CD	$14.99
200	Too Many Type Fonts	$14.99
261	Windoware	$14.99
582	Wizard MPC	$14.99
192	World Traveller Vol. 1	$14.99

BUY ANY 5 CD'S FOR $89
BUY ANY 7 CD'S FOR $125

112	American Business phone book	$19.99
507	Barney Bear Goes to School	$19.99
508	Barney Bear Goes to Space	$19.99
116	Beauty & the Beast	$19.99
218	California Collection CD ROM	$19.99
514	CD ROM Grab Bag	$19.99
224	GIFs Galore CD ROM	$19.99
532	Halgerersons Source	$19.99
543	MS DOS Archives	$19.99
549	OS/2 Archives	$19.99
555	Power Pak Gold	$19.99
565	Sample This	$19.99
172	So Much Shareware II	$19.99
578	Ultimate Collection Games	$19.99
229	VGA Spectrum CD ROM	$19.99
186	Wild Places	$19.99
583	Wizpac	$19.99
190	World View	$19.99

BUY ANY 5 CD'S FOR $140
BUY ANY 7 CD'S FOR $196

501	Aircraft Encyclopedia	$29.99
511	C User's Group Library	$29.99
119	Carmen San Diego	$29.99
313	MAC People At Leisure	$28.99
211	Mammals Multimedia CD	$29.99
146	Mayo Clinic Family Health	$29.99
544	Multimedia Computer Tutor	$28.99
155	Ocean Imagery	$28.99
160	People at Leisure	$28.99
255	Plant Doctor CD ROM	$29.99
162	Playing with Language French	$29.99
163	Playing with Language German	$29.99
161	Playing with Language English	$29.99
164	Playing with Language Japanese	$29.99
165	Playing with Language Spanish	$29.99
167	Publish It 2.0	$29.99
168	Reference Library	$29.99
559	Resource Library-Audio	$29.99
560	Resource Library-Graphics	$29.99
170	Sherlock Holmes Consulting Detect	$29.99
572	Smutware	$29.99
575	Source Code CD	$27.99
267	Space Quest IV CD ROM	$29.99
196	Sports Best CD	$27.99
174	Time Almanac 1991	$29.99
182	US Atals/World Atlas	$28.99
189	US Atlas, V3.0	$28.99
580	Windows 1993	$29.99
188	Wing Commander & Ultima V	$29.99
189	World Atlas V3.2	$29.99

BUY ANY 5 CD'S FOR $160
BUY ANY 7 CD'S FOR $224

512	Canyon Action	$34.99
513	Career Opportunities	$34.99
254	CD Game Pack II CD ROM	$34.99
516	Consumer Information Disc	$34.99
125	Corporate Snapshots	$34.99
517	Cosmo Osmo	$34.99
256	Dictionaries & Languages	$34.99
127	Dictionary of the living world	$34.99
520	Electronic Home Library	$34.99
521	Encyclopedia of Clipart	$34.99
522	European Monarchs	$34.99
130	Family Doctor	$34.99
525	Fonts for the Professional	$34.99
526	Fresh Arte	$34.99
529	Gigabyte Gold	$34.99
214	Illustrated Holy Bible CD ROM	$34.99
536	KGB World Fact Book	$34.99
539	Lion Shareware	$34.99
316	MAC Desert Storm	$34.99
312	MAC Macromind CD ROM Clip Arts	$34.99
311	MAC Rev. Sherlock Holmes Detective	$36.99
318	MAC Sports ROM Catalogue	$36.99
317	MAC Time Table of History	$34.99
144	Macromind Action (no Manual)	$34.99
191	Magazine Rack	$34.99
149	Microprose Collection on CD	$34.99
541	Middle East Diary	$34.99
152	Monkey Island	$34.99
547	NightOwl Ver. 8	$34.99
153	Ocean Digital Imagery Vol.1	$34.99
548	Officer's Bookcase	$34.99
550	Paperbag Princess	$34.99
551	PC Media	$34.99
158	PC-SIG 10th Edition	$34.99
265	PC-SIG 11th Addition CD ROM	$34.99
552	PC-SIG 12th Edition	$34.99
157	PC-SIG 9th Edition	$34.99
701	PC-SIG GAMES	$34.99
553	Pharmacist Guide to Drugs	$34.99
554	Pixel Garden	$34.99
556	Prescription Drugs	$34.99
557	RBBS in a Box	$34.99
561	Roger Ebert's Movie Guide	$34.99
567	Scary Poems/Rotten Kids	$34.99
568	Scouting report:1992	$34.99
570	Seals of the US Gov.	$34.99
700	SFX Sound	$39.99
571	Shareware Gold 2	$34.99
573	So Much Screenware	$34.99
222	Sound Blaster CD With Window 3.1	$39.99
574	Source CD-ROM	$37.99
598	Super CD	$34.99
597	Super Game For Windows	$34.99
593	Trade Opportunities	$34.99
183	US Atlas & Automac	$34.99
184	US History	$34.99
703	VGA Spectrum CD ROM #II	$32.99
187	Wing Commander & Secret Missiles	$34.99
584	World of Flight	$34.99
585	World of Trains	$34.99

ADULT TITLES

Must be 18 or older to purchase

461	Adult Reference Library	49.99
411	Animation Fantasies 1	49.99
462	Animation Fantasies 2	49.99
444	Busty Babes	49.99
412	Ecstasy	49.99
416	Erotic Encounter	49.99
413	FAO (XXX) 3-Disc Set	99.99
463	Giffy Gold	49.99
464	Hot PICs II	49.99
465	Hot PICs III	49.99
466	Hot PICs IV	49.99
467	Hot PICs V	49.99
431	Moving Fantasies	49.99
419	My Private Collection (XXX)	49.99
468	Night Watch	59.99
420	PC PIX 1 (XXX)	49.99
421	PC PIX 2 (XXX)	49.99
422	PC PIX 3 (XXX)	49.99
469	Physical Therapy	49.99
423	Seedy ROM Seventh heaven	49.99
425	So Much Stareware	49.99
427	Storm 2	49.99
455	Storm 3	49.99
426	Storm I	49.99
470	Things Change: My First Time	59.99
471	Visual Fantasies	49.99
452	Volcano	49.99
494	Girls of Vivid Vol. 1	49.99
496	Girls of Vivid Vol. 2	49.99
499	The legend of the KamaSutra	49.99
498	101 Sex Positions Pt. 1	49.99
497	101 Sex Positions Pt. 2	49.99
495	Best of Vivid	49.99

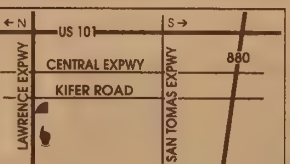
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

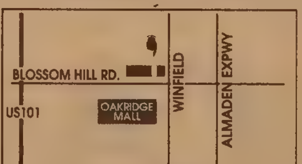
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd: & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

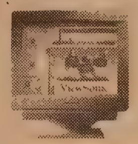
©1993 INVERSE CORPORATION

VIDEO SUPER SOURCE

MONITORS

ViewSonic®

State of the Art



The New Generation

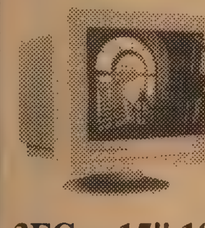
ViewSonic-15 15" .28dpi ViewMatch Color Monitor, 1280X1024, Non-Interlaced 76Hz at 1024X768, Flat Screen	**$539**
ViewSonic-17 17" .28dpi 76Hz at 1280X1024, Flat Square Screen	**$1119**
ViewSonic-20 20" .28pdi 1600X1280, Non-Interlaced, Dual Page Display	**$1795**
ViewSonic-21 21" ••Just In••	**$Call**

MGC

14" SVGA 1024X768 Non-Interlaced XGA High-Frequency, .28dpi	**$309**
15" SVGA Flat Screen Non-Interlaced XGA High Frequency, .28dpi, up 1280X1024 Non-Internal	**$399**
14" SVGA Black 1024X768	**$289**

SONY

CPD 1430	14" SVGA .25dpi	$599
CPD 1604	while supply lasts	$939
CPD 1730	17" SVGA .25dpi	$999
GDM2038	20" State-of-the-art	$2294



NEC

3FGe	15" 1024X768@60Hz	$599
4FGe	15" 1024X768@76Hz	$719
5FGe	17" 1024X768@76Hz	$1119
5FG	17" 1280X1024@74Hz	$1449
6FG	21" 1280X1024@74Hz	$2399

SAMSUNG Electronics

High Quality Monitors for Less

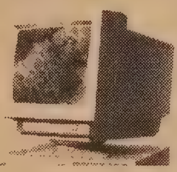
SyncMaster-15C 15" MulitSycn .28dpi, Flicker-Free, Microprocessor Controls flat screen 1024X768 non-interlaced	**$454**
SyncMaster-5 17" MultiSync High-freq. .28dpi, 1024X768, Non-Interlaced	**$799**
SyncMaster-5+ 17" 1280X1024 .28dpi, Flicker-Free, MulitSync	**$895**

U-SYNC 14" NON-INT. SVGA

.28 dpi 1024X768@72Hz	$259

MiTAC

Affordable Quality Monitors



14" SVGA Non-Interlaced 1024X768, .28dpi	**$269**
15" SVGA Non-Interlaced 1280X1024, .28dpi, flat screen Digital Control	**$399**
17" SVGA Non-Interlaced 1280X1024, .26dpi	**$699**

NANAO®

PROFESSIONAL VIDEO DISPLAY

F340iw 15" Non-Int. flat screen	$699
F550i 17" Non-Int. 1280X1024, .28dpi	$1049
F550iw 17" Non-Int. 1280X1024, .28dpi	$1119
T560i 17" Non-Int. 1280X1024, .25dpi	$1694
T660i 20" Trinitron Tube 1280X1024, .28dpi	$2499
T750i 21" Non-Int. 1280X1024, .32dpi	$2089
F760i 21" 1280X1024™74Hz, .31dpi	$2149

SVGA VIDEO CARDS

SVGA 256K Video Card	$\$29^{99}$
SVGA 512MB 1024X768	$\$44^{99}$
SVGA 1024K 1024X768	$\$59^{99}$
SVGA VESA Local Bus	$\$79^{99}$

VIDEO CARDS

Number Nine Computer Corporation

Excellence in PC Graphics

9GXe World's Fastest Graphics Accelerator Engine 86C928 Chp Based

9GXe Level 10 ISA 1MB VRAM	$259
9GXe Level 11 ISA or VESA 2MB VRAM	$369
9GXe Level 12 ISA or VESA 3MB VRAM	$449

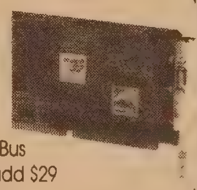
9GXi Graphics Powerhouse Bases on Ti TMS 34020

9GXi Lite Level 20 1MB VRAM	$539
9GXi Lite Level 21 1MB VRAM /1MB DRAM	$699
9GXi Level 23 ISA or MCA 1MB VRAM/1MBDRAM	$999
9GXi Level 25 ISA or MCA 2MB VRAM/1MB DRAM	$1269
9GXi Level 29 4MB VRAM 1MB DRAM	$1449
15-Pin To 5BNC Monitor Cable	$89

ATi TECHNOLOGIES INC.

Graphic Ultra+

- ▶ Accelerated 1024X768 at 65,000 Colors, True 16.7M Colors at 800X600
- ▶ Multimedia Video Accelerator



1MB DRAM	2MB DRAM	
$209	**$239**	With ATi Bus Mouse add $29

Graphic Ultra Pro

- ▶ Accellerated 1024X768 at 256 Colors, up to 74Hz, Non-Interlaced

1MB VRAM	2MB VRAM	
$329	**$339**	With ATi Bus Mouse add $29

Graphics Ultra Pro 2MB EISA $419

Graphics Ultra Pro VLB

VESA Local Bus ***Mach 32***

1MB VRAM	2MB VRAM
$299	**$349**

DIAMOND

Stealth Pro 1MB/2MB ISA	$249/$349
Stealth Pro 1MB/2MB VLB	$259/$359
SpeedStar Pro VESA or ISA	$\$139^{99}$
Stealth 24 VESA or ISA 1280X1024	$\$169^{99}$
Viper VLB 2MB VRAM Accelerator	$\$389^{99}$

ORCHID

High End Video Solutions

Celsius 1MB VRAM/2mb	$229/$289
P9000 VESA 2MB VRAM/1MB DRAM	$365
Fahrenheit 1280 Plus 1MB	$154
Fahrenheit 1280 Plus VLB 1MB	$169
Fahrenheit VA or VA/VLB 1MB	$179

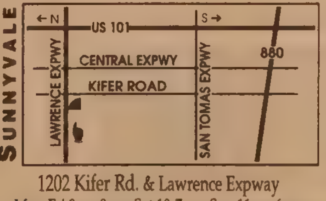
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

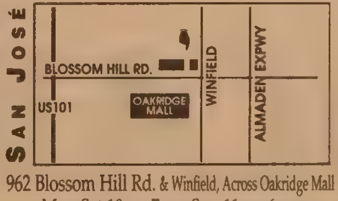
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

MEMORY

MOTHERBOARDS

MEMORY SIMMS

IBM COMPATIBLE

256X9	80ns	3Chip	$Call
1MBX9	80ns	3Chip	$Call
1MBX9	80ns	9Chip	$Call
1MBX9	70ns	3Chip	$Call
1MBX9	70ns	9Chip	$Call
1MBX9	60ns	3Chip	$Call
1MBX9	60ns	9Chip	$Call
4MBX9	80ns	9Chip	$Call
4MBX9	70ns	9Chip	$Call
4MBX9	60ns	9Chip	$Call
16MBX9	70ns	9Chip	$Call

DIPPS

256X1 100ns	$1.79
256X1 80ns	$1.59
256X1 70ns	$1.89
256X4 70ns	***$4.89***
64X4 100ns	$3.39
64X4 80ns	$2.29
1X4 80ns	$16.99
1MBX1 100ns	$3.75
1MBX1 80ns	$3.39
1MBX1 70ns	$4.29
1MBX1 60ns	$4.39

CACHE MEMORY

32X8-25	$6.50
32X8-20	$8.50
32X8-15	$17.00
32X8-12	$39.00
64X4-25	$8.50
64X4-20	$9.00
64X4-15	$18.00
64X1-20	$5.75
64X1-15	$6.75
8X8-25	$3.75
8X8-20	$3.25
8X8-15	$4.75
16X4-20	$6.25
16X4-25	$4.75
16X4-15	$8.25
128X8-25	$41.50
128X8-20	$CALL
128X8-15	$CALL

MEMORY SIPPS

1X9/70	$Call
1X9/60	$Call

INTEL CPUs

486DX-33MHz	$Call
486DX-50MHz	$Call
486DX/2-50MHz	$Call
486DX/2-66MHz	$Call

LASER PRINTER MEMORY

HP laser Jet 4 & 4M HEWLETT PACKARD

4MB	$Call
8MB	$Call

HP Laser Jet IIP, III, IIID

2MB Board (up to 4MB)	$Call
4MB Board	$Call

HP IIIsi

4MB Module	$Call
8MB Module	$Call

OTHER LASER RPINTERS

PANASONIC P4410/4430 Printers
Compaq Page MRQ Printers
EPSON Action II Printers
OKI 400 Printers & NEC Printers

Macintosh

1MBX8	80ns	2Chip	$Call
1MBX8	80ns	8Chip	$Call
1MBX8	70ns	2Chip	$Call
1MBX8	70ns	8Chip	$Call
2MBX8	80ns	2Chip	$Call
4MBX8	80ns	8Chip	$Call
4MBX8	70ns	8Chip	$Call
4MBX8	60ns	8Chip	$Call
4MBX8	80ns	II-FX	$Call
16MBX8	70ns	8Chip	$Call

32-BIT FOR QUADRA 800, CENTRIS, & LCIII

2MB Module	$Call
4MB Module	$Call
8MB Module	$Call
16MB Module	$Call

MAC MEMORY INSTALLATION

2-Hr Installation **$15**
(excluding Powerbooks)

POWERBOOK MEMORY

6MB Module **(160/180)**	$259
8MB Module **(160/180)**	$339
10MB Module **(160/180)**	$439
6MB Modules **(140/145/170)**	$219

72-PIN SIMMS

2MB 604-70ns	$CALL
4MB 1X36-70ns	$CALL
8MB 2X36-70ns	$CALL
16MB 4X36 70ns	$CALL

MATH CO-PROCESSORS

CHIPS AND TECHNOLOGIES

Co-processor for
386-DX16, 20, 25, & 33MHz **$59**

intel.

80387SX-16, 20, 25	$79
80387DX-16, 20,25,33	$79
Overdrive Processor	$Call

IIT INTEGRATED INFORMATION TECHNOLOGY

3C87SX-16, 20, 25	$69
3C87SX-33	$79
3C87-20, 25, 33	$79
3C87-40	$89

Cyrix

83S87SX-16, 20, 25	$69
83S87SX-33	$79
83D87-16, 20, 25, 33	$79
83D87-40	$89

WEITEK

4167-25	$359
4167-33 W/Manual & SW	$629

MOTHERBOARDS

DIAMOND

- VESA Local Bus
- ZIF Socket
- Up to 128MB on Board Using
- 72-Pin Simms
- 256K Write-Back Cache
- 2 IDE / 2 Floppy / I/O on Board

486DX33	**$629**
486DX50	**$749**
486DX2/50	**$719**
486DX2/66	**$813**

ORCHID MOTHERBOARDS

High Quality VESA Local Bus
(no CPU)

486DX-33 VLB 256K Cache	$199.99
486DX-50 VLB 256K Cache	$209.99
486DX-66 VLB 256K Cahce	$199.99

Alaris

Manufactured By IBM
3 Year Warranty

- VESA Local Bus
- 128K Cache
- Includes Co-Processors
- 16K Internal Cache

486SLC2-50, 19.8mips	**$319**
486SLC2-60, 26.2mips	**$360**

Elite UM 486V

VESA - Local Bus Motherboard

- 8 16-Bit Slots INCLUDES 2 32-Bit VESA Slots
- 256K Cache
- ZIF 238-pin Socket (Pentuim over drive ready)
- UMC Chip Set
- AMI BIOS
- Jumper Adjustable speed

486DX-33	**$489**
486DX-50	**$609**
486DX/2-50	**$589**
486DX/2-66	**$699**

MICRONICS COMPUTERS INC.

486 SX25 VESA Bus	**$299**
486 DX33 VESA 256K (ZIF Socket)	**$649**
486 DX33 EISA/VESA 256K	**$899**
486 DX50 EISA 8 Slots, 256K	**$1049**
486DX/2-66 VESA, ZIF Socket, 256K	**$Call**
486 DX/2-66 EISA/VESA 256K	**$1299**

American Megatrends

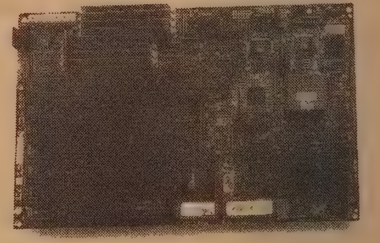
Super Voyager

486DX33 VESA 256K	**$789**
486DX50 VESA 256K	**$939**
486DX/2-66 VESA 256K	**$1129**

Enterprise III

486DX33 EISA/VESA 256K	**$899**
486DX50 EISA/VESA 256K	**$1099**
486DX2/66 EISA/VESA 256K	**$1239**

HIGH QUALITY, HIGH PERFORMANCE MOTHERBOARDS



386SX-33MHz	$149
386DX-40MHz w/CPU, 64K Cache	$159
386DX-40MHz w/CPU, 128K Cache	$159
386DX-40MHz w/CPU, 256K Cache	$169
486DLC/40 Cyrix	$229
486DLC/40 w/Co-Pro Cyrix	$269

486 EISA/VLB

- 3-EISA - Slots
- 2-VESA - Slots
- 3 16-Bit ISA Slots
- Hint Chip Set

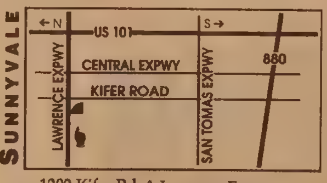
$249

Your Computer Products Super Source

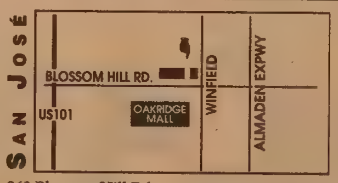
NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

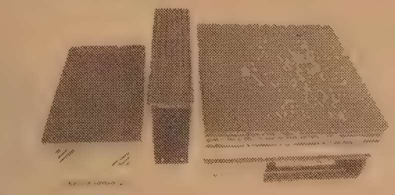
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

ACCESSORIES SUPER SOURCE

CASES

EXTERNAL SCSI DRIVE CASES



- High Quality Metal Cases
- 2 Centronics Output
- Noise Free Fan
- External SCSI ID Switch
- External SCSI Cable (50C-50C or 50C-25C)
- Power Cable
- Hardware

For 3.5" or 5.25" Half Height	$99
For Full Height or 2 HH (NCA)	$199
For 2 Full Height 200W with 5-fans	$279
For 4 Full Height With Panal	$499

SPECIAL

While Supplies Last

External SCSI Case
Small Case with Power Supply for 3.5" SCSI Drives
$65

External IDE Case
Includes cables, Power Supply & All Needed Hardware
$65

POWER SUPPLIES

250Watt UL approved AT	$49
250Watt UL for Tower	$49
400Watt UL for Tower	$179

COMPUTER CASES

- HIGH QUALITY CASES
- UL APPROVED POWER SUPPLY
- GREAT STYLE SELECTION

NCA SERIES™

DESCRIPTION	PRICE
MINI-TOWER , 230W	$79.99
MED-TOWER , 230W	$99.99
FULL-TOWER , 250W	$139.99

BETA SERIES™

DESCRIPTION	PRICE
MINI-TOWER P-105, 230W	$69.99
MED-TOWER P-203, 230W	$89.99
FULL-TOWER P-306, 250W	$119.99

POINTING DEVICES

LOGITECH

Buy a Specially Marked Pakage of MousMan™ & get another Mouse FREE*

BUY THIS MOUSE GET ONE FREE!

MouseMan $59.99
Serial Mouse Man Bus Ver. $62.99
*Handled through Logitec

NAME	PRICE
FIRST-MOUSE	$36.99
TrackMan-II	$74.99
MOUSE-MAN Cordless	$84.99
KIDSMOUSE	$29.99

NAME	PRICE
SoundMan 16	$129.99
ScanMan 256 with OCR	$219.99
ScanMan 32	$99.99

Microsoft

NAME	PRICE
Microsoft Mouse OEM	$49
Microsoft Mouse II OEM	$59

QuickShot® by Bondwell WARRIOR 5

DELUXE ANALOG JOYSTICK FOR IBM PC COMPATIBLE $14.99

Smart Game Card 2-Game ports Selectable Speed	$16.99
Star Fighter 5 Control Center	$9.99
Sound Mate II Amplified Speakers	$19.99

MEDIA

TAPES & CARTRIDGES

DESCRIPTION	SINGLE	5-PACK
2120 (120/250MB)		
SONY DC2120 120/250MB	18.95	89.00
3M 2120F FORMATTED XMAT	18.00	89.00
MAXELL DC2120 UNFORMATTED	16.99	79.00
MAXELL DC2120 FORMATTED Q80	19.99	89.99
6000(1/4" TAPES)		
SONY DC6150 150MB	22.95	107.50
SONY DC6250 250MB	28.95	137.50
SONY DC6525 525MB	33.95	155.50
DAT 4mm 90meters		
SONY 90M	17.95	75.00
TDK DC4-90	13.99	65.00
DAT 8mm 112meters		
EXABYTE UP TO 5.0GB TAPES	18.00	89.00
TDK DC8-112	9.99	45.00
FLOPPY DISKS		
SONY 2.88M DISKS	10PACK ONLY $62.50	
BULK 1.44M 3.5" FORMATTED	.68¢	25PACK $17.99
BULK 1.2M 5.25" FORMATTED	.39¢	25PACK $9.99
REMOVABLE DISKS		
SYQUEST 44MB	$65.00	$309
SYQUEST 88MB	$99	$489
SYQUEST 105MB 3.5"	$99	$489
BERNOULLI	SEE pg. 9	
RICOH 128MB	$49	239
MAXEL 128MB OPTICAL	$42	199
MAXOPTIX 1.0GB GLASS OR POLY	$199	979
RICOH 650MB	$145	$699

CABLES

HARD DRIVE EXTERNAL CABLES

DESCRIPTION	PRICE
CENTRONICS TO SCSI-II	$39.99
CENTRONICS TO MAC 25-PIN	$7.99
CENTRONICS 50 TO CENTRONICS 50, 6FT	$12.99
CENTRONICS 50 TO CENTRONICS 50, 3FT	$9.99
CENTRONICS TO DB-50	$39.99
DB-50 TO SCSI-II	$39.99
DB-50 TO DB-50	$39.99
SCSI-II TO SCSI-II	$39.99

HARD DRIVE INTERNAL CABLES

DESCRIPTION	PRICE
SCSI 50-PIN RIBBON 3 CONNECTOR	$5.99
SCSI 50-PIN RIBBON 4 CONNECTOR	$9.99
SCSI 50-PIN RIBBON 5 CONNECTOR	$12.99
IDE 40-PIN RIBBON 3 CONNECTORS	$3.99
FLOPPY & IDE CABLE SET	$5.99

KEYBOARDS

KEYBOARDS

DESCRIPTION	PRICE
MITSUMI High Quality Keyboard	$29.99
MITSUMI BLACK	$49.99
MAX STANDARD 101 KEY	$19.99
ALPS SWITCH CLICK STYLE	$39.99

FOCUS

DESCRIPTION	PRICE
FOCUS 2000 W/COVER	$42.99
FOCUS 8000 with Calculator	$49.99
FOCUS 9000 with Calculator / programmable	$69.99

CPU COOLING FAN $17

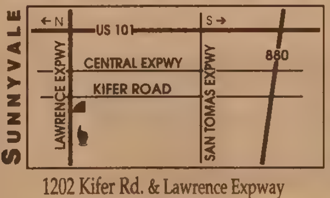
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

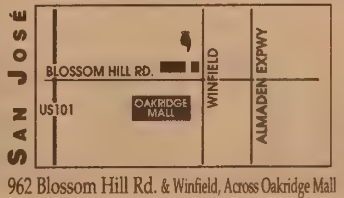
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

FAX/MODEM SUPER SOURCE

COMPUTER PERIPHERALS, INC.™

5 YEAR LIMITED WARRANTY

ViVa 14.4/Fax

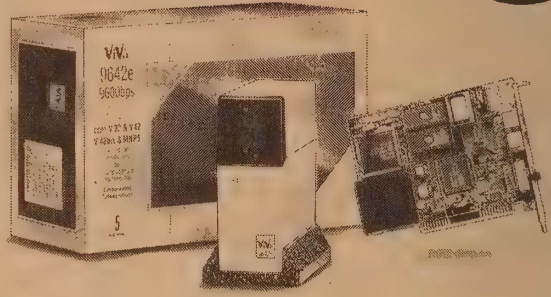
14.4/FAX

14,400 bps V.32/V.42 bis Modem
with **14,400 bps SEND/REC. FAX**

with DOS and WINDOWS Ver. Communication Software

MADE IN AMERICA ViVa

- 100% Hayes Enhanced AT Command Set Compatible
- V.32bis (57,600 bps Maximum throughput speed
- V.42bis and MNP 5 data compression
- V.42 and MNP 2-4 error Correction
- Auto-baud negotiation
- Fax from with any DOS application
- WYSIWYF (what you see is what you fax)
- Auto COM Port detection
- Near laser printer quality output with PCL4 support



INTERNAL	EXTERNAL	VIVA 14.4 | FAX | MAC With *sft* Software
$169	**$189**	**$199**

ViVa 14.4 Pocket FAX-MODEM

ViVa 14.4P

- ▶ 14,400 bps Pocket size modem
- ▶ with 14,400 bps SEND/REC FAX
- ▶ includes: WINFAX & Communication Software

$289

Sound Cards

ViVa MULTI-MEDIA Maestro 16

16 BIT STEREO SOUND CARD

- ▶ 44KHz Record/Playback, SCSI Port, and MIDI Port
- ▶ Software included
  - Stereo Wave Editor
  - Audio Mixer
  - CD Audio Player
  - MIDI Player
  - Text To Speech
  - Sound Clips (WAV & MIDI)

$169

ViVa MULTI-MEDIA Maestro 16 VR

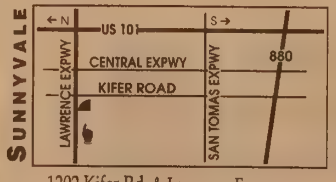
16 BIT STEREO SOUND/VOICE CARD

- ▶ Includes Above Software List
- ▶ with Voice Recognition Software

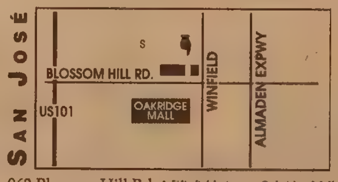
$249

Your Computer Products Super Source

NCA Computer Products



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

©1993 INVERSE CORPORATION

FAX/MODEM SUPER SOURCE

USRobotics®

The Intelligent Choice in Data Communications

FIVE YEAR WARRANTY

HIGH SPEED FAX/MODEMS

SPORTSTER 14,400 V.32/V.42

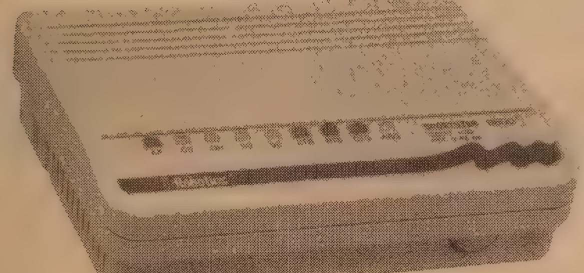
WITH WINFAX LITE SOFTWARE

LOWEST NCA PRICES EVER

FREE

SIERRA Network®
Sierra start-up kit
First 3 hours of access free
4-3.5" disk set
SIERRA®

MADE IN THE USA



INTERNAL	EXTERNAL
$169	$189

MAC&FAX SPORTSTER
EXTERNAL 14.4 FAX/MODEM
W/ FAX*stf*™ software for MAC...$209

I.P.C. LOGIC™ Fax MODEM

MADE IN USA

14,400bps FAX/MODEM

MNP 5 / V.42bis

- With Quick Link II FAX/Communication for DOS

  MADE IN AMERICA

  INTERNAL **$179**

  External.... $199

- With Windows Ver. DOS Software with Prodigy Kit

  INTERNAL **$189**

- 2400bps FAX Modem (9600bps FAX send&Receive) with Windows Ver. Software & Prodigy Kit

  INTERNAL **$69**

Hayes®

MADE IN AMERICA

EXTERNAL 2400 BAUD MODEM WITH SOFTWARE $39

WHAT EVERY 14.4 FAX/MODEM NEEDS

PORT FOLIO 16550

QUICKPATH

- 4 SERIAL PORTS (4 UARTS 16550)
- 2 PARALLEL PORTS
- 4 FLOPPY PORTS
- 2 IDE PORTS
- 1 GAME PORT

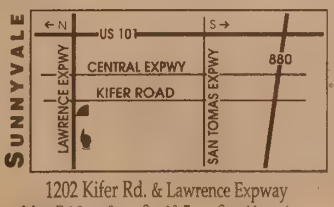
$129

Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ
BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

PCMCIA *SuperSource*

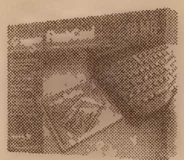
FlashCard

PCMCIA Mass Storage For Mobile Computers

Seagate SunDisk The Solid Advantage

HEWLETT PACKARD

☐HP 95LX



KIT INCLUDES:
FlashCard, Communication Cable, Software Drivers

2.5MB FlashCard Kit	$449
5.2MB FlashCard Kit	$599
10.4MB FlashCard Kit	$829

EO, Inc.

☐Personal Communication 440

FlashCard Only: No Software Needed

2.5MB FlashCard	$399
5.2MB FlashCard	$499
10.4MB FlashCard	$759
20MB FlashCard	$1399

NCR

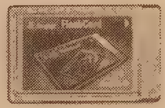
3170 Safari

KIT INCLUDES:
FlashCard & Software Drivers

2.5MB FlashCard Kit	$399
5.2MB FlashCard Kit	$499
10.4MB FlashCard Kit	$759
20MB FlashCard Kit	$1399

HEWLETT PACKARD

☐HP 100LX
☐OmniBook

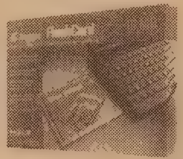


FlashCard Only: No Software Needed

2.5MB FlashCard	$399
5.2MB FlashCard	$499
10.4MB FlashCard	$759
20MB FlashCard	$1399

GRiD

☐Convertible 386



KIT INCLUDES:
FlashCard & Software Drivers

2.5MB FlashCard Kit	$449
5.2MB FlashCard Kit	$599
10.4MB FlashCard Kit	$829

Apple

☐Newton

FlashCard Only: No Software Needed

2.5MB FlashCard	$Call
5.2MB FlashCard	$Call
10.4MB FlashCard	$Call
20MB FlashCard	$Call

GVC
The Name You Can Trust

1978 – 1993
15 YEARS OF EXCELLENCE
GVC Technologies, Inc.

FIVE YEAR WARRANTY

Fax/modem For PCMCIA Type 2.0

With QuickLink II Software

- 9600bps Send Fax
- 4800bps Receive Fax
- 2400bps Data

$189

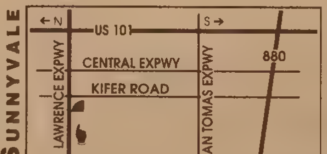
TESTED WITH Acer (Anywhere V386SL), AST (PowerExec 3/25SL), AST (PowerExec ColorPlus 4/25SL), Data General (Walkabout 386SL), Dauphin (5000 Series), Dell (320SLi), GRiD (Convertible), Hynndai (Couries), NCR (3170 Safari), PC&C Research (SLIC 4000), Sharp (PC-6700 Series & PC-6800 Series), Toshiba (T3300SL, T4500, T4500C), & Zenith (z-Lite 320L)

Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

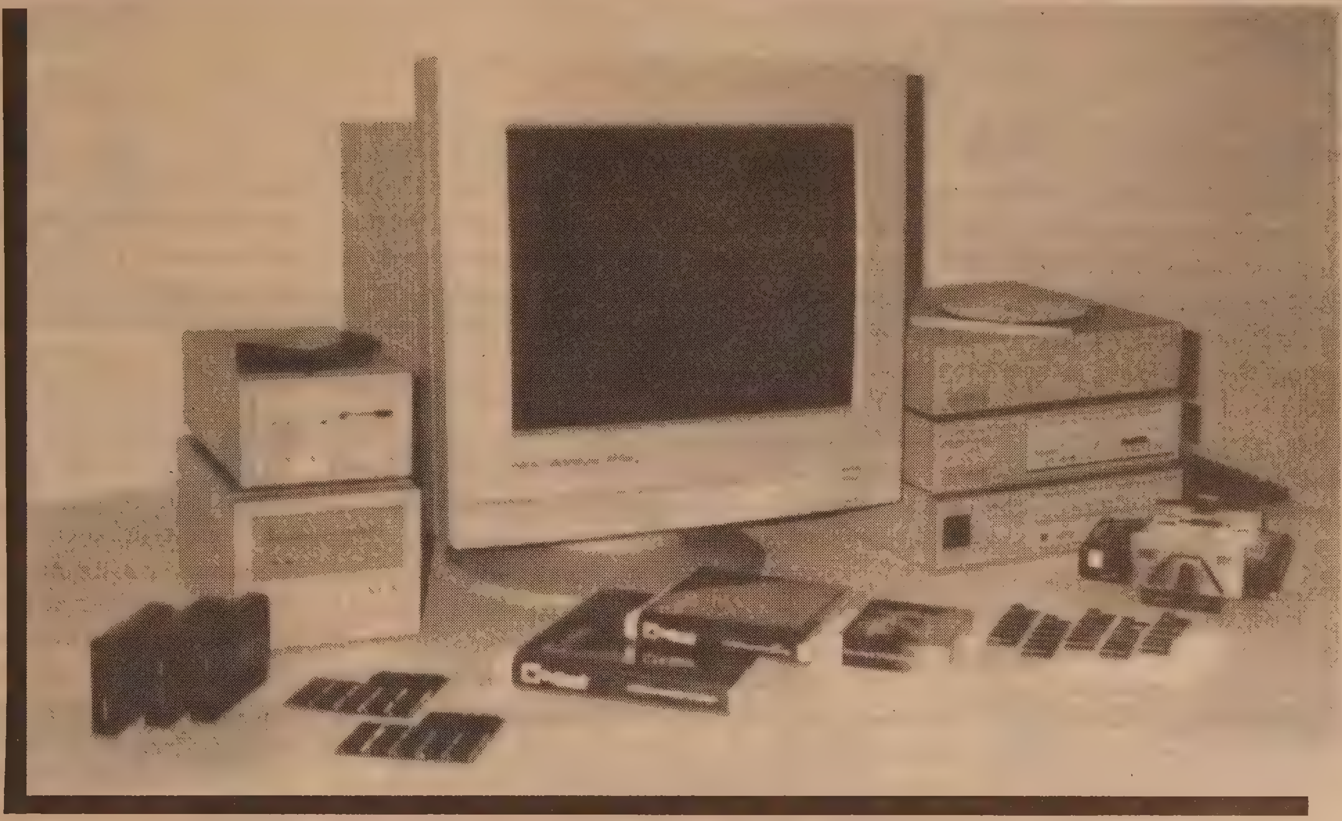
SAN JOSÉ
BLOSSOM HILL RD.
US101
OAKRIDGE MALL
WINFIELD
ALMADEN EXPWY

962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

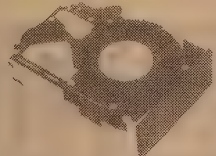
Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION



We got your MAC Covered

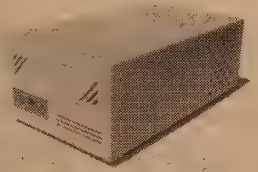
INTERNAL HARD DRIVES



85MB - 3.7GB

See Pages 4 through 7 of this Catalog
– Add $15 for Bracket
(Excluding Quadra 900 & 950 add $39)

EXTERNAL DRIVES



100's of Options
85MB-24GB Array

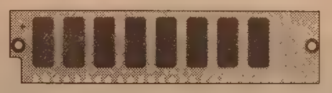
We Customize Combos to your needs
See Page 8 of this Catalog

FAX/MODEM

Includes Software and Cables.

US Robotics 14.4Fax/Modem	$209
ViVa 14.4 Fax/Modem	$199

MEMORY SIMMS



For All MACs

- 1MBX8 80ns, 70ns (2 & 8 Chip)
- 4MBX8 80, 70ns,
- 16MBX8 70ns
- 4MB, 8MB & 16MB Modules for Quadra 800, Centris, and LCIII
- Powerbooks 4, 6, 8, 10MB Modules

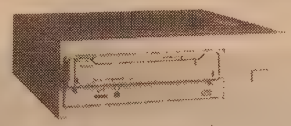
$15 Installation Charge
While-U-Wait
Excluding Powerbooks

REMOVABLES

We have it all:

- Syquest 44MB, 88MB, 105MB (see p.12)
- Flopticals (see p.11)
- Opticals (see p.10)

CD ROMS

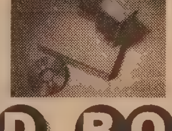


Includes Trantor CD-ROM Drivers and Cables for MAC.

External Toshiba 3401B 200ms	$569
External NEC 74-1, 265ms	$599
External CHINON 535, 280ms	$499
External TEAC CD50, 265ms	$479
External TEXEL 5024, 265ms	$499

MULTIMEDIA

MEDIA VISION



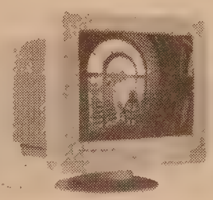
CD ROM

MULTIMEDIA KITS

- External SONY Double Speed CD ROM
- Speakers
- Bundled Software
  - Compton's Multimedia Encyclopedia
  - Battle Chess
  - Out of this World
  - CD-ROM Toolkit

$699

MONITORS



NEC

ides: adapter for Macs

3FGe 15" 1024X768 @ 60Hz	$629
4FGe 15" 1024X768 @ 76Hz	$729
5FGe 17" 1024X768 @ 76Hz	$1129
5FG 17" 1280X1024 @ 74Hz	$1449
6FG 20" 1280X1024 @ 74Hz	$2429

TAPE BACKUP

All Tape Back-ups include SurfGaurd® Software, Free Tape, and Cables for MAC.

2.0GB 4mm DAT Drive Archive	$1199
4.0GB 4mm Turbo DAT Archive	$1349
4-8GB 4mm DAT Archive	$1349
2.0GB 4mm DAT HP	$1199
4-8GB 4mm DAT HP	$1299
4-8GB 4mm DAT WangDat	$1249

DRIVE CASES

External Case for 3.5" Kit	$99
External for 5.25" FH Kit	$139

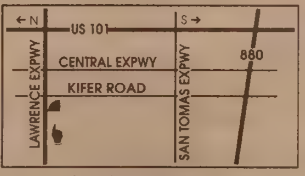
Your Computer Products Super Source

NCA Computer Products

POs VISA MasterCard DISCOVER AMERICAN EXPRESS

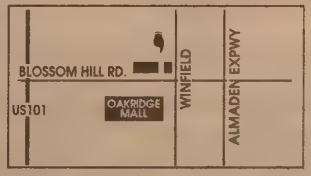
Price subject to change without notice, Limited quantity on Special Items
Not responsible for type errors. Expires Sept. 24th ,1993

SUNNYVALE



1202 Kifer Rd. & Lawrence Expway
Mon-Fri 9am-8pm; Sat 10-7pm; Sun 11am-6pm
(408) 739-9010 FAX (408) 739-2420

SAN JOSÉ



962 Blossom Hill Rd. & Winfield, Across Oakridge Mall
Mon-Sat 10am-7pm; Sun 11am-6pm
(408) 363-4600 FAX (408) 363-4610

NCA CORPORATE

Corporate, Dealer, Government, Educational, & International:
(408) 522-8672
P.O. FAX(408) 739-2420

©1993 INVERSE CORPORATION

continued from page 84

ning them with Crane's annoyance filter.

The search was singularly unexciting. My task monitor showed the volume of data we'd scanned so far, the percent done, and the instantaneous compute power we were using. There's a feeling of power that comes from knowing you're doing more calculations every minute than all of mankind did from Pithecanthropus Erectus to 1950, but the novelty of even so remarkable a fact quickly pales into something akin to watching paint dry.

Every time Crane's annoyance filter triggered, my control program popped up a window with the image on both our workstations and filed the picture for later examination in a directory called WOW. The filter seemed to be working quite well. We got an image about every hour—mostly scanned illustrations from journal articles erroneously filed in raw data directories. Art figured we could ditch them by looking for captions, but they were appearing so infrequently he decided not to delay the search to modify the program.

Around 3 am Tuesday we were both taken aback when we found our first genuine interstellar message: a spacecraft, two beings, and some coded gibberish. Art looked at the source information in the title bar and confirmed that we'd discovered the Pioneer plaque in a NASA Goddard planetary image archive. "Right message, wrong way," he muttered.

We decided to call it a night. With the search on autopilot, we could dial in from our home machines and scan the images in the WOW directory whenever we wanted. I, for one, had no desire to spend any more time in Crane's office until the janitors came in next week and cleaned it with a fire hose.

Tuesday, I slept late, gave the plants their biennial sip of water, unloaded the dishwasher, and didn't get around to dialing in to see if anything had been found until close to midnight. I looked over the 20-odd pictures in WOW and found the usual selection of false alarms. I checked the login history and saw that Art was dialing in every couple of hours to scan the pictures. The company was closed until Monday the 5th, so we'd have the better part of a week to continue the search. I figured we could get through about a quarter of the obvious candidate data on the Net in that time.

The audacity of two programmers employed by a medium-sized software company searching three decades' accumulated scientific knowledge for interstellar messages didn't occur to me. I doubt Crane was capable of entertaining such a thought.

* * *

With the search for intelligent life in the universe toiling away, needing only sporadic attention, I turned my attention to serious work. The company had bought one of the just-developed superconductive long range NMR scanners, and I was working on a prototype for a product I called "Fantastic Voyager" that let you fly around in a 3-D image of your own body using the cyberspace gear we made. The job was challenging both from the standpoint of identifying the different tissue types from the NMR samples, and in developing navigation models to let you trace the paths of blood vessels and nerves through the body.

Since my home machine had all the power and storage I needed, I worked there, as usual disappearing into the project and surfacing only sporadically to eat, sleep, or dial in to scan the WOW directory.

continued on page 224

EXCELLENCE IN QUALITY & SERVICE

NOVELL. SCO THE SANTA CRUZ OPERATION SunSoft A Sun Microsystems, Inc Business

Authorized Reseller SCO UNIX, SCO Open Desktop, SCO Open Enterprise System. Authorized Sunsoft Dealer. We offer complete "Turn-key" multi-user & multi-tasking solutions under SCO, SunSoft, & Novell. ISA & EISA systems for 4 to unlimited users. Up to 256MB RAM & 34GB hard drive array supported. Multi-processor systems are also available. Our Servers support Pentium.

We carry a full line of hardware options and software solutions for SCO, UNIX & Novell.

AMI MICRONICS

VESA Local Bus

Truly The First VESA Compatible Local Bus System

486 DX/33 Complete System. . . $1895/1925
486 DX2/50 Complete System. . $2095/2195
486 DX2/66 Complete System. . $2295/2325

Above Micronics/AMI Systems Include:
Diamond SpeedStar Pro w/1MB • 4MB RAM • 120MB Hard Drive • 1.2 & 1.44 Floppy Drives • Non-Interlaced 14' SVGA Monitor • DOS 6.0 • Windows 3.1 • 101 Keyboard • Mouse • Mid-Tower Case • 2 Serial, 1 Parallel & 1 Game Ports • Lifetime technical & 5 year labor warranty

Other Local Bus Systems Also Available

AST® RESEARCH INC.
COMPAQ
IBM

NOTEBOOKS

We Carry All Brand Names

AST Power Exec 4/80 Color $2999
Compaq Contura 4/120 Color 2650
Samsung Notemaster 486 SLC 2/120 1550
Texas Instruments 486SLC/25 4/80 1750
Toshiba T4500 486SX20 4/120 Color 3395
Twinhead 486DX/33 4/120 2095

486-DX33/50/66 MHZ

120MB Hard Drive Super VGA Systems

- 128K Cache
- 4MB RAM
- 1.44 Floppy Drive
- 120MB Hard Drive
- SVGA Non-Int. Monitor .28dp
- SVGA Card w/1MB
- 2 Serial, 1 Parallel, & 1 Game ports
- Mid Tower case
- Enhanced 101 keyboard
- MS DOS 6.0
- Lifetime technical & 5 year labor warranty

$1425/1525/1625

hp HEWLETT PACKARD

PRINTERS

DeskJet 500 .... $375
DeskJet 500C 495
DeskJet 550C 695
LaserJet IIIP 875
LaserJet 4 .... CALL
LaserJet 4M .... CALL

OUR SERVICES & WARRANTY INCLUDE - FREE Needs Analysis - FREE Installation of Software on System purchase - FREE 1 hour data transfer from your existing computer - Lifetime technical support - 5 Year labor, 1 Year Parts Warranty - Complete Turnkey Solutions - On-Site Service Available

(510) 906-1690
Fax (510) 906-1699
1554 Newell Avenue,
Walnut Creek, CA 94596
Hours: M-F 9-6 Sat 11-3

Systems Unlimited

Systems & Enterprise Wide Networking

Closed last Saturday of the month • Prices subject to change w/o notice

HKG COMPUTERS

Hardware Knowledge Group, Inc.

$0 DOWN
90 DAYS SAME AS CASH

ON APPROVAL OF CREDIT

1 YEAR PARTS & LIFETIME LABOR WARRANTY!

INSTANT CREDIT!

All Systems Include: Mini Tower Case; 1MB RAM; IDE Controller (2HD, 2FD); AT I/O (2s, 1p, 1g) Ports; 101 Enhanced Keyboard

386SX-33

- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card

$679

386DX-40

- 64K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card

$729

486SX-25

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- VLB SVGA Card & VLB IDE Controller
- 3 VESA Local Bus Slots

$779

486DX-33

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- 3 VESA Local Bus Slots

$989

486DX-50

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- 3 VESA Local Bus Slots

$1139

486DX2-66

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- 3 VESA Local Bus Slots

$1219

486DX-33
VESA Local Bus

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- VLB SVGA Card & VLB IDE Controller
- 3 VESA Local Bus Slots

$1089

486DX2-66
VESA Local Bus

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card
- VLB SVGA Card & VLB IDE Controller
- 3 VESA Local Bus Slots

$1319

486DX-50 EISA

- 256K Cache
- 130 MB Hard Disk
- 1.2 or 1.44 FD
- SVGA Monitor and Card

$1329

PERIPHERALS AND ACCESSORIES

MONITORS

Impression 14" SVGA .39dp	$210
Impression 14" SVGA .28dp	260
Impression 14" SVGA .28dp NI	285
Impression 17" 1280x1024 .28dp, NI	850
ViewMagic 15" 1280x1024 .28dp, NI	420
Viewsonic 14" 4E	300
Viewsonic 14" 6E, NI	339
Viewsonic 15" 6FS, NI	550
Viewsonic 17" 7, NI	950
NEC 15" 3FGX	600
NEC 4FGE 15"	709

HARD DRIVES

80 MB IDE	175
130 MB IDE	190
170 MB IDE	200
213 MB IDE	230
245 MB IDE	245
340 MB IDE	330
540 MB IDE/SCSI	CALL
1.2/1.7 GB	CALL

VIDEO CARDS

Trident 512K	$40
Trident 1 MB	60
Diamond SpeedStar Pro ISA/VLB 1MB	160
Cirrus Logic VLB 1MB	110
ATI Graphics Ultra	280
ATI Graphics Ultra Pro, 2 MB	450
Orchid Fahrenheit VLB 1 MB	185

PRINTERS

Panasonic 1123	$210
Panasonic 2123	245
Panasonic KX-P4410	645
HP Laser 3P/4/4L/4M	859/1369/699/1899
HP 500/500C/550C	389/499/699

MISC.

2400B Modem	$35
Fax/Modem (9600/2400) Int	55
Fax/Modem 14,400/14,400 Int/Ext	165/185
Summit Tape Back-Up 250 MB	210
Colorado Tape Back-Up 120 MB	155
Colorado Tape Back-Up 250 MB	205
Archive Tape Back-Up 250 MB	170
Ethernet Card 16-Bit	99
Logitech Scanman 32 w/OCR Software	139/185
Logitech Scanman 256 w/OCR Software	249/299
3 Button Mouse	15
Logitech First Mouse/MouseMan	40/75
1.2/1.44 MB Floppy Drive	50
Chicony 101 Enhanced Keyboard	20
Sony/Panasonic CD ROM	230

MONTHLY SPECIALS

• SOUNDBLASTER 16 ASP	$209
• 144/144 FAX/MODEM INT/EXT	$155/185

MULTIMEDIA

STARTER PAK

- Panasonic 522 CD-ROM Drive
- SoundBlaster Pro Deluxe Sound Card
- Encyclopedia CD-ROM

$330

PERFORMANCE PAK

- Panasonic 562 CD-ROM Drive (Double Speed, 300KB/s)
- SoundBlaster 16 Sound Card
- Encyclopedia CD-ROM

$420

OTHERS

• SoundBlaster Pro Deluxe	$129
• SoundBlaster 16	169
• SoundBlaster 16 ASP	209
• Toshiba 3401B SCSI CD-ROM	427

HKG COMPUTERS

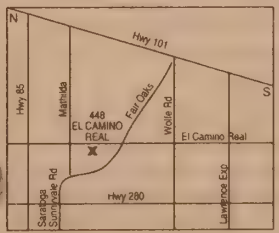
Hardware Knowledge Group, Inc.

M-F: 10am-7pm
Sat: 10am-7pm
Sun: 11am-6pm

Corporate PO's Welcome

448- EAST EL CAMINO REAL
SUNNYVALE, CA 94087
(408)-SEEK-HKG (733-5454)
Fax: (408) 733-5456

Prices Subject To Change W/O Notice



Best Prices! Best Quality! Best Service!

CALL FOR UPDATED PRICES

LAITRON COMPUTER WEEKLY SPECIALS

486DX2-66/256

- Diamond 2 VESA Local Bus Board w/on board IDE
- Intel 80486DX2-66 CPU w/fan
- Flash BIOS, C&T Chipset
- 8MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44 MB Floppy Drive
- AT I/O 2S/1P/1G
- 250MB IDE HD
- Focus 9000 128-key Keyboard
- Diamond Stealth VLB w/1MB
- ADI 4G 15" 1280X1024 Monitor
- Medium Tower Case
- 250-Watt Power Supply

$2145

486DX2-66/256

- Orchid 2 VESA Local Bus
- Intel 80486DX2-66 CPU w/fan
- AMI BIOS, OPTI Chipset
- 8 MB RAM 70ns
- Teac 1.2 MB Floppy Drive
- Teac 1.44 MB Floppy Drive
- VESA Local Bus IDE
- AT I/O 2S/1P/1G
- 250MB IDE HD
- Focus 9000 128-key Keyboard
- Orchid VA805 VLB w/1MB
- ADI 4G 15" 1280X1024 Monitor
- Medium Tower
- 250-Watt Power Supply

$2145

486DX-33/128K

- 2 VESA Local Bus Board
- Intel 80486DX-33 CPU
- AMI BIOS
- 4MB RAM 70ns
- Teac 1.2MB Floppy Drive
- Teac 1.44MB Floppy Drive
- IDE/IO 2FD/2HD/2S/1P/1G
- 32-bit Local Bus
- 250MB IDE HD
- Mitsumi 101-key Keyboard
- VLB VIDEO with 1MB
- 1024x768 .28dp SVGA Monitor
- Mini Tower Case
- 230-Watt Power Supply

$1295

386DX- 40/128K

- AMD 80386DX-40 CPU
- AMI BIOS & MATH-Co Socket
- Internal Clock Battery
- 4 MB RAM 70ns
- 1.2 MB Floppy Drive
- 1.44 MB Floppy Drive
- IDE 2FD/2HD Controller
- AT I/O 2S/1P/1G
- Conner 120MB 17ms IDE HD
- Mitsumi 101-key Keyboard
- Trident SVGA with 512K
- SVGA .28dp VGA Monitor
- DESKTOP Case
- 200-Watt Power Supply

$899

CD-ROM SOFTWARE

American Business Phone Book '92	$23
Animals v. 1.0 (DOS)	$18
Arthur's Teacher Trouble	$23
Battle Chess (DOS)	$16
Bus & Econ Atlas (DOS)	$22
Carmen San Diego (DOS)	$21
CD Bame Goes To Space	$25
CD Game Pack II (DOS)	$23
CD Storytime (DOS)	$17
Chess Master 3000 (MPC)	$18
Compton's Encyclopedia (MPC)	$60
Compton's Family Encyclopedia	$50
Desert Storm (MPC/Mac)	$19
Dictionary of the Living World	$29
Dinosaur Adventure	$23
Dr. Window Shareware	$17
Dr. Game Shareware	$17
Dr. Music Shareware	$17
Electronic Library of Art v.1 (DOS)	$27
Electronic Home Library	$18
Electronic Library of Art (SURVEY)	$29
Family Choice/Britannica	$25
Family Doctor (DOS/Mac)	$22
Family Education Collections (DOS)	$19
Font Master I or Font Master II	$25
Futura Games	$21
Great Cities of the World vol. 1/2(DOS)	$19
Guiness Disk of Records (MPC) '93	$22
Illustrated Works of Shakespeare	$27
Jones in Fast Lane (MPC)	$16
King's Quest V (DOS)	$16
Library of the Future 1st ed. (DOS)	$45
Loom from Lucas Film (DOS)	$16
Macmillan Dictionary for Children	$29
Magazine Rack	$35
Manhole	$40
Mario's Missing/World Atlas	$17
Mavis Teaches Typing (MPC)	$19
Mayo Clinic	$22
Media Clips 1 Pak (MPC/Mac)	$38
Media Clips-Jets & Props (MPC)	$19
Media Clips-Wild Places (DOS)	$12
Mentis Express Fighter	$14
Microsoft Bookshelf '93 (MPC)	$50
Microsoft Works (MPC),	$50
MIDI Music Shop	$18
Mirror Mirror	$22
Mixed-Up Mother Goose (MPC)	$19
Monkey Island (DOS)	$22
Musical Instruments	$69
Nat'l Geographics Mammals (DOS)	$22
National Parks	$25
Ocean Digital Imagery v. 1 (DOS)	$33

CD-ROM SOFTWARE

Oldies But Goodies	$22
PC-SIG 12th ed. (DOS)	$28
Peter and the Wolf (MPC)	$15
Playing with Language - (E/F/G/J/S)	$23
Publish It! v. 2.0 (DOS)	$22
Roger Ebert's Movie Companion	$40
Secret Weapons of Luftwaffe (DOS)	$16
Seventh Guest-Virgin Games	$55
Shareware Bonaza	$55
Sherlock Holmes (DOS)	$16
Sleeping Beauty	$24
So Much Shareware! I (DOS)	$12
So Much Shareware! II (DOS)	$15
So Much Shareware! III (DOS)	$22
Sound Library (MPC)	$20
Space Series Apollo	$40
Stellar 7 (DOS)	$16
Swim Wear 1993	$26
The Beauty & The Beast (MPC)	$15
TIME Almanac 1991 (DOS)	$22
TIME Table of History (DOS)	$16
Toolworks Encyclopedia (MPC)	$48
Total Baseball (DOS/Mac)	$18
True Type Explosion Fonts	$27
U.S. Atlas & Automap (DOS)	$24
U.S. History (DOS/Mac)	$22
USA Wars: Korea	$28
US/World Atlas Pack	$29
USA Wars: Vietnam (DOS/Mac)	$28
USA Wars: World War II (DOS/Mac)	$28
Variety Store	$21
VGA Spectrum Sound Library	$18
Vital Signs (MPC/Mac)	$93
Wing Commander/Ultima VI (DOS)	$21
Winware! vol. 3	$18
Wiz-Pak Shareware	$18
Woman of Venus	$28
World of Flight	$30
World Atlas v. 3.2 (MPC)	$15
World of Trains	$30
World View (DOS)	$13
World Vista	$35

CALL FOR ADULT TITLES & MORE

CD-ROM

NEC CD-ROM 84/74(280ms)	$395/$570
MITSUMI CD-ROM(350ms)W/Card	$180
PANASONIC CR-526(300KB/SEC)	$230
PANASONIC CR-522	$195
TEXEL 3024N SCSI	$348
TOSHIBA 3401 INT/EXT	$400/$500

MONITORS

ADI 4G 15" .28dp 1280x1024	$425
Hitachi CM-2095	$1280
Hitachi CM-2187M+	$2080
Mag 15F 15" .26dp	$497
Mag 17F 17" .26dp/OEM	$930/845
Mitsubishi HL6955SETK 20" .31dp	$1720
Mitsubishi Diamond Pro 17" .26	$1065
Nanao 340iw	$655
Nanao F550iw	$1075
Nanao T560i	$1640
NEC 3FGx	$576
NEC 3FGe	$576
NEC 4FGe	$676
NEC 5FG	$1358
NEC 5FGe	$1070
Sony CPD-1304	$516
Sony CPD-1604	$895
Sony CPD-1430	$562
Sony CPD-1730	$966
Viewsonic 1	$175
viewsonics 2	$235
Viewsonic 4E	$270
Viewsonic 5+	$365
Viewsonic 5E	$355
Viewsonic 6E	$296
Viewsonic 7	$875
Viewsonic 8	$1485
Viewsonic 15	$505
Viewsonic 17	$1050
Viewsonic 20	$1690
Monochrome 14"	$92
Monochrome VGA 14"	$108
VGA 14" .51dp	$174
SVGA 14" .39dp	$198
SVGA 14" .28dp	$237
SVGA 14" .28dp Non-Interlaced	$260

PRINTERS

Brother HJ400 INK JET(MAG&PC)	$300
Canon BJ-200	$330
Citizen GX130 Color 24 Pin	$195
HP DeskJet 500	$375
HP DeskJet 500C	$475
HP DeskJet 550C	$685
HP LaserJet 4	$1330
HP LaserJet 4L	$685
HP PaintJet	$699
Panasonic 1123	$168
Panasonic 1124i	$238
Panasonic 2123	$218
Panasonic 2180	$156
Panasonic 4410	$590
Color Kit	$45

HARD & FLOPPY DRIVES

Conner CP30084E 80MB 18ms IDE	$150
Conner CP30104 120MB 16ms IDE	$156
Conner CP30174 170MB 16ms IDE	$176
Conner CP30204 212MB 12ms IDE	$218
Conner CP30254 250MB 14ms IDE	$235
Conner CP30544 540MB <12ms IDE	$599
Fujitsu M2622T 330MB 12ms IDE	$560
Fujitsu M2623T 425MB 12ms IDE	$720
Fujitsu M2624T 520MB 12ms IDE	$670
Maxtor MXT1240S 1.2GB 8.5ms IDE	$1110
Maxtor 7213AT 213MB 15ms IDE	$210
Maxtor 7245AT 245MB 15ms IDE	$250
Maxtor 7345A 340MB 13ms IDE	$305
Maxto MXT540 535MB 8.5ms IDE	$830
Quantum ELS127 16ms127MB IDE	$175
Quantum LPS240 240MB 15ms IDE	$255
Quantum LPS525AT 525MB 12ms IDE	$595
Western Digital WD2200 212MB 14ms IDE	$205
Western Digital WD2250 250MB 14ms IDE	$235
Western Digital WD2340 340MB 13ms IDE	$299
Fujitsu M2623SA 425MB 11ms SCSI	$630
Fujitsu M2624F 520MB 11ms SCSI	$680
Fujitsu M2694SA 1.2GB 10ms SCSI	$960
Fujitsu M2652SA 2.0GB 11ms SCSI	$1850
Fujitsu M2654SA 2.4GB 12ms SCSI	$2400
Quantum LPS525S 525MB 13ms SCSI	$660
Toshiba 877MB 12ms 512K Cache SCSI-2	$870
Toshiba 1.2GB 12ms 512K Cache SCSI-2	$960
Teac 1.2MB Floppy Drive	$53
Teac 1.44MB Floppy Drive	$50

VIDEO CARDS

ATI Pro1MB/2MB(ISA)	$244/$320
ATI Pro 1MB/2MB(VLB)	$256/$335
ATI Pro 1MB/2MB(EISA)	$300$380
ATI Graphics Ultra Plus 1MB/2MB	$210/$256
ATI Graphics Ultra w/1MB & Mouse	$184
Cirrus Logic w/1MB	$58
Cirrus Logic VLB w/1MB	$92
Diamond Speedstar 24 w/Hi-Color & 1MB	$139
Diamond Speedstar 24X w/Hi-Color & 1MB	$140
Diamond Stealth 24 w/Hi-Color & 1MB	$147
Diamond Stealth 24 VLB w/1MB	$160
Diamond Stealth Pro VRAM w/2MB	$340
Diamond Stealth Viper VLB w/2MB	$365
Genoa 8500 VLB w/1MB	$105
Orchid Fahrenheit VA801 w/Sound	$142
Orchid Fahrenheit VLB w/1MB	$146
Orchid ProDesigner IIS w/1MB	$109
Orchid P9000 VLB w/3MB	$340
Trident 9000A w/256K	$31
Trident 9000A w/512K	$38
Trident 8900C/8900CL w/1MB	$58
Tseng Lab VLB w/1MB	$110

Best Prices! Best Quality! Best Service!

CALL FOR UPDATED PRICES

LAITRON COMPUTER WEEKLY SPECIALS

Multimedia 486SX-25/128K

- 2 VESA Local Bus Board
- Intel 80486SX-25CPU
- Toshiba XM-3401 CD-ROM
- Pro Audio 16 Sound Card
- 4MB RAM 70ns
- Teac 1.2 &1.44 Floppy Drive
- IDE/IO 2FD/2HD/2S/1P/1G
- Western Digital 250MB IDE HD
- Mitsumi 101-key Keyboard
- Cirrus Logic VLB SVGA w/1MB
- 1024x768 .28dp SVGA Monitor
- Medium Tower Case
- 250-Watt Power Supply

$1645

Multimedia 386DX-40/128K

- AMD 386DX-40 CPU
- Sound Blaster Pro Sound Card
- Panasonic CR522 CD-ROM
- Deluxe Speaker
- 4MB RAM 70ns
- 1.2 &1.44 Floppy Drive
- IDE/IO 2FD/2HD/2S/1P/1G
- Conner 170MB Hard Drive
- Mitsumi 101-key Keyboard
- Cirrus Logic SVGA w/1MB
- 1024x768 .28dp SVGA Monitor
- Mini Tower Case
- 230-Watt Power Supply

$1245

Notebook Twinhead 486DX-33T

- 4MB RAM, Exp. To 20MB
- 130MB HD (200 MB Available)
- 1.44MB Floppy Drive
- 256-color Active Color Matrix
- 2S/1P/1G
- One External SVGA Port
- One External FD Port
- One 100-Pin Expansion Port
- One External Keyboard Port
- 120/240V AC/DC Adapter
- Internal Trackball

$3995

Notebook Matador 486DX2-66

- 4MB RAM, Exp. To 20MB
- 120MB HD (200 MB Available)
- 1.44MB Floppy Drive
- 256-color Active Color Matrix
- 2S/1P/1G
- One External SVGA Port
- One External FD Port
- One 110-Pin Expansion Port
- One External Keyboard Port
- 120/240V AC/DC Adapter
- Internal Trackball

$4095

KEYBOARDS

Focus 2001	$36
Focus 9001	$58
Keytronic 101-Key	$32
Maxiswitch 101-Key	$28
Metek K208 101-Key	$22
Metek K104 101-Key Click	$42
Mitsumi 101-Key	$26
Northgate OmniKey 101	$68
Northgate OmniKey 102	$68
Northgate OmniKey Ultra	$92

CONTROLLER CARDS

IDE 4FD/2HD	$34
IDE 2FD/2HD/2S/1P/1G	$14
Future Domain IDE 2HD/2D & SCSI	$60
DTC 2290 EISA IDE	$135
Promise DC-99M IDE w/512K Cache	$115
Promise DC-100 IDE Cache with I/O	$125
Promise DC-200 IDE Cache w/4HD/2FD	$125
Promise DC-4030 VLB IDE Cache w/4HD	$175
Teco Cache VLB IDE w/4HD/2FD	$175
Tyan VLB IDE with I/O	$40
Adaptec 1522/1522K SCSI	$98/$138
Adaptec 1542C/1542CK SCSI	$190/$233
Adaptec 2742 EISA SCSI	$380
BusLogic BT445S VLB SCSI-II	$268
BusLogic BT545KT BusMaster SCSI	$235
BusLogic BTB742KT EISA SCSI-II Kit	$266
BusLogic BTB747AK EISA SCSI	$380
DTC 3290AS EISA SCSI	$430
Future Domain TMC950 SCSI w/IDE	$55
Ultrastor 24F EISA SCSI	$365
Ultrastor 34F VLB SCSI	$265

MOTHERBOARDS W/CPU

Asus 486DX-50/256K w/2VLB	$560
Asus 486DX2-66/256K w/2VLB	$650
Diamond 486DX2-66/256K w/2 VLB	$715
IBM SLC2-66	$350
Nice 486DX2-66/256K EISA/VLB	$748
Nice 486DX-50/256K EISA/VLB	$680
Nice 486DX-33/256K EISA/VLB	$540
Orchid 486DX2-66/256K w/2 VLB	$695
Orchid 486DX-50/256K w/2 VLB	$645
MicroStar 486DX2-66/128K w/2 VLB	$610
486DX-33/64K w/2 VLB	$385
486DX2-66/256K	$615
486DX-50/256K	$525
486DX2-50/256K	$485
486DX-33/64K (Intel CPU)	$365
486DLC-40/64K	$195
386DX-40/128K	$122
386SX-33	$85

POWER SUPPLY & CASE

200W Power Supply	$35
230W Power Supply	$40
250W Power Supply	$55
300W Power Supply	$65
Desktop AT Case w/200W Power Supply	$54
Mini-Tower Case w/200W Power Supply	$51
Medium Tower Case w/250W PS	$82
Full-Size Tower case w/250W PS	$112
Super Tower Case w/300W PS	$190

SOFTWARE

Central Point Anti-Virus	$15
Lotus 1-2-3 for Windows	$290
Microsoft DOS 5.0 (w/System Purchase)	$45
Microsoft Excel 4.0 for Windows	$265
Microsoft Office 3.0 for Windows	$460
Microsoft Project 3.0 for Windows	$410
Microsoft Word for Windows	$265
Microsoft Works for Windows	$65
Microsoft Windows 3.1 (w/System Purchase)	$45
SCO C++	$900
SCO ODT Dev. System 2.0/Tape	$1460/$1240
SCO Personal System 2.0/Tape	$1155/1050
SCO XENIX-NET 386 Single Server V1.3.0	$670
SCO UNIX 386 Dev. System V3.2.4	$885
SCO UNIX 386 GT V3.2.4 Multiuser	$885
SCO XENIX386 Dev. System V2.3.1	$585
SCO XENIX 386 GT V2.3.4 Multiuser	$640
Wordperfect 5.1(DOS)	$250
Wordperfect 5.2 for Windows	$260

MULTIMEDIA

Creative Labs MIDI Kit	$42
Creative Labs SoundBlaster Delex	$82
Creative Labs SoundBlaster Pro	$105
Creative Labs SoundBlaster Pro Deluxe	$119
Creative Labs SoundBlaster 16 ASP	$194
Creative Labs VideoBlaster	$306
Creative Labs WaveBlaster	$230
Logitech Sound Man	$140
Media Vision Pro Audio Spectrum 16	$148
Media Vision Pro Audio Studio 16	$205
Media Vision Pro Movie Spectrum	$265
Creative Labs Discovery CD 8 Upgrade Kit	$380
Creative Labs Discovery CD 16 Upgrade Kit	$460
Creative Labs Edutainment 16 CD Upgrade	$525
Media Vision Pro 16 Multimedia System	$810
Media Vision Subsystem CDPC XL	$1065
Media Vision Fusion CD 16	$470
NEC Multimedia Upgrade Kit	$800
Labtec Speakers	$25
Zoltrix Deluxe Speakers	$15

MODEMS

DataSystem Pocket Size 14400 Fax/Modem	$205
DataSystem External 14400 Fax/Modem	$175
DataSystem 14400 Fax/Modem w/16550	$160
Zoltrix 2400 Internal Modem w/send fax	$27
Zoltrix 9600/2400 Internal Fax/Modem	$48
Zoltrix 9600/2400 Int. Fax/Modem (Windows)	$57
Zoltrix 14400 Internal Fax/Modem	$148
Zoltrix 14400 External Fax/Modem	$173
US Robotics 14400/14400 Int. Fax/Modem	$173
US Robotics 14400/14400 Ext. Fax/Modem	$185

TAPE BACKUP

3M DC2120 Tape	$18
Colorado AB-11 External Tape Port	$38
Colorado DJ-10 Internal Tape Backup	$138
Colorado DJ-20 Internal Tape Backup	$178
Colorado FC-10 Tape Backup Controller	$85
Colorado KE-09 External Kit w/o Controller	$65
Colorado TC-15 Controller w/Compression	$185
Colorado PT-25 2GB Int. Tape Backup	$970
Colorado PT-25E 2GB Ext. Tape Backup	$1115
Colorado PT-50 4GB Int. Tape Backup	$1485
Colorado PT-50E 4GB Ext. Tape Backup	$1635
Colorado Trakker 120MB Ext. Tape Backup	$295
Colorado Trakker 250MB Ext. Tape Backup	$392
Iomega 250MB Insider Int. Tape Backup	$205
Summit SE250 250MB Int. Tape Backup	$170

MICE

Impression 3-Button Mouse	$18
Logitech First Mouse	$35
Logitech Mouseman	$56
Logitech Mouseman (Cordless)	$85
Logitech Trackman	$75
Microsoft Mouse	$41
MS Compatible Mouse	$10

MEMORY & CHIPS

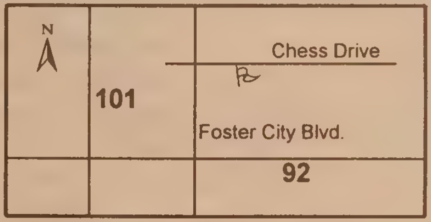
1 MBx9 SIMM 60ns	
1 MBx9 SIMM 70ns	
MBx9 SIMM 60ns	
4 MBx9 SIMM 70ns	
1 MBx36 SIMM 70ns	
2 MBx36 SIMM 70ns	
4 MBx36 SIMM 70ns	
Cyrix 387DX-40	
Cyrix 387DX-33/25	
Cyrix 387SX-25/20/16	
Intel 80387DX-33/25	
Intel 80387SX-25/16	

CPUs & Memory.......Please call for new daily updated prices

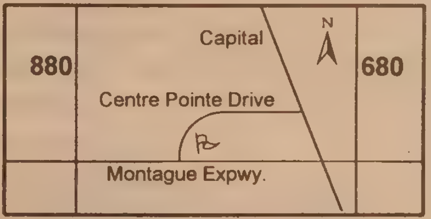
LAITRON COMPUTER

HOURS:

9:00 AM TO 6:30 PM M-F
10:00 AM TO 4:00 PM SAT



1169 Chess Drive, Suite E
Foster City, CA 94404
Tel: (415)578-8998
Fax: (415)578-8880



1646 Centre Pointe Drive
Milpitas, CA 95035
Tel: (408)945-1411
Fax: (408)945-1075

Terms & Conditions:

- Nationwide on-site service available
- Prices and availability subject to change without notice
- Shipping, COD, & insurance are extra and not refundable
- Prices reflect cash discount
- All returns must have prior authorization
- All returns must be in original packaging complete with manual, software,...etc.
- 15% restocking charge
- Not responsible for typos on this ad

continued from page 220

Wednesday night I stopped by Bart Lazslo's New Year's Eve party for a couple of hours and was amused to hear Crane grandiloquently describing our little holiday hack as the "Crane/Slatkin Quest For Galactic Intelligence." He related our discovery of the Pioneer plaque much more dramatically than I could have, or, for that matter, than the facts justified.

He'd brought a portable computer and hooked it up to show pictures from the WOW directory on Bart's projection TV. He'd even programmed a scrolling subtitle, "LIVE from the accumulated wisdom of mankind." Much to the amusement of those irritated by Crane's antics, that night the fount of wisdom yielded up a scatter plot of globular cluster velocities, what appeared to be a calibration signal for an interferometry run, and, at the stroke of midnight, an order form for the "Proceedings of the 1993 IAU Vienna Workshop on Relativistic Jets." Sue Hardiman went to the piano and composed a song on the spot. All I remember is:

Crane pursued the aliens
Through the archives on the Net.
But the aliens came and kidnapped
Crane
In their Relativistic Jets.

When I left, they were still adding verses of monotonically decreasing quality. Crane was singing along lustily.

* * *

I spent the rest of the week in a happy blur, working on Fantastic Voyager. Every now and then Crane or I would notice something amusing in the WOW directory and send mail pointing it out, but otherwise I didn't pay much attention to the search.

By Sunday night, Fantastic Voyager was working pretty well. After tiring of flying lazy orbits around my pancreas, I finished up the documentation describing Fantastic Voyager. Another part of the Week of Rest tradition was that the day the company reopened, papers describing the programmers' projects would appear in everybody's mailbox and the software would be on display in the Demo Lab. After I queued the paper to the mail system, I drove down to the office around midnight to install Fantastic Voyager on the lab machine and make sure it worked there.

Also, I wanted to double check that the Quest was set to shut down before 5 am when the Net started charging again. At normal prime time rates, our data transfers for the Quest would've gone through my monthly salary every day, and I wasn't about to get docked a couple of weeks' pay due to a typo.

Crane was in his office, writing up his Week of Rest project, a redesign of an obscure internal algorithm that would speed up one of our products about 30%. He'd actually cleaned the place up, to the extent of even returning most of the books to the bookshelves that covered the walls. We chatted for a couple minutes, then I went down to the Demo Lab and he returned to his documentation. As usual, my demo didn't work the first time—I had to dial into my home machine and copy some files and rebuild. Anyway, it was almost 3 before I was satisfied it would work that afternoon.

The audacity of two programmers employed by a medium-sized software company searching three decades' accumulated scientific knowledge for interstellar messages didn't occur to me. I doubt Crane was capable of entertaining such a thought.

I went back to my office and locked up, then stopped by Crane's on the way out. He'd finished and queued his document, and was idly flipping through the 150 or so pictures in WOW. He said we'd accomplished something worthwhile and suggested we should write a paper about the Quest. Every message we'd found, after all, was the product of intelligence. If we'd broadcast the Net feed to the stars, any civilization with our program would have found ample evidence of intelligence. He thought we might be able to persuade the investigators on the various radiotelescope projects to routinely run our filter over their data, forwarding all the images it found to us for examination.

We talked about how we should phrase such a paper and what journal might publish it, and so on, in the kind of lazy-days bull session exhausted programmers are prone to as they sit on a virtual veranda on the banks of the Mighty Megaflop and watch time and data flow by.

"Peep." Another image popped up on the screen: a NASA logo. Crane hit the key to file it away. It was already 4, so we decided to sit around and make sure the Quest terminated on schedule at 4:50. Nobody'd be expecting any programmers to show up much before 2 pm, so there wasn't any reason not to see it through.

Our conversation was describing a chaotic orbit around the usual attractors of evolution, anarchy, programming languages, quantum electronics, and office politics, when we got another "Peep." It was 4:32:19.217 PST.

I can vouch for the time; it's in the execution log. My memory of what happened after the image popped up on Crane's screen is less precise. We glanced at the screen, then we stared at it. The image filled about a quarter of the screen; it was 2039 by 2053 pixels. Four bold black diagonal stripes set off each corner and continued as thin alternating black and white pinstripes along the edges of the image. Had the upper left stripe proclaimed "New!," the layout would've blended indistinguishably into *Time* or *Scientific Enquirer.* What was within the border was another matter entirely.

The figures on the right were humanoid, but not human. They were simply the best aliens I'd ever seen: there wasn't a single missing or disproportionate characteristic about them, but they were *all wrong* to be humans. There were two adults, male and female—the female was holding a little one. On the left was what was clearly a conversion table between binary numbers represented by "-" and "|" and eight digit symbols. The middle of the picture was divided into four boxes, three with a large central dot, curved lines, and nomenclature using the eight digits. The fourth contained what could only be an orrery presentation of a planetary system. At the bottom were four rows of sixty-four of the digits given at the left of the picture.

Art rolled his chair over to the screen to

WE HAVE LOWERED OUR PRICES, BUT NOT OUR QUALITY SERVICE!!

Orchid VLB System

486DX-33 486DX2-66
$1569 $1819

- **Orchid 486 VLB** Motherboard w/256k Cache
- 4MB RAM
- Mid-Tower Case/P.S.
- Orchid IDE VLB & I/O
- Teac 1.2 & 1.44 FD
- 245MB Hard Disk
- Orchid Fahrenheit VLB
- SVGA NI Monitor
- MaxiSwitch101 keyboard

Micronics VLB System

VLB System $2449

- **Micronics 486DX2-66 VLB** Motherboard w/256k Cache
- 8MB RAM
- Full-Tower Case/250w P.S.
- Teac 1.2 MB Floppy Drive
- Teac 1.44MB Floppy Drive
- 345MB IDE Hard Disk
- 2s, 1p, 1g I/O Port
- Orchid Fahrenheit VLB
- ViewSonic 15 NI Monitor
- Keytronic 101 keyboard

AMI Enterprise III

EISA VLB $3639

- **AMI 486DX2-66 EISA VLB** Motherboard w/256k Cache
- 8MB RAM
- Full-Tower Case/250w P.S.
- Ultrastor 24F EISA Fast SCSI2
- Teac 1.2 & 1.44 Floppy Drive
- 525MB Fast SCSI2 Hard Disk
- 2s, 1p, 1g I/O Port
- Orchid Fahrenheit VLB
- 17" 0.26mm NI Monitor
- Keytronic 101 keyboard

486DX System

486DX-33	$1269
486DX-50	$1399
486DX2-66	$1489

- 486DX 256K MB
- 4MB RAM
- Mini-Tower Case/Power Supply
- IDE & I/O Controller
- Teac 1.2MB & 1.44MB
- 120MB Hard Disk
- 16bit SVGA w/1MB
- SVGA Monitor
- 101 keyboard

386DX System

386DX-40 $955

- 386DX 128K MB
- 4MB RAM
- Mini-Tower Case/Power Supply
- IDE & I/O Controller
- Teac 1.2MB & 1.44MB
- 120MB Hard Disk
- 16bit SVGA w/1MB
- SVGA Monitor
- 101 keyboard

AMI Super Voyager

ISA VLB System $2469

- **AMI 486DX2-66 ISA VLB** Motherboard w/256k Cache
- 8MB RAM
- Mid-Tower Case/ P.S.
- Orchid IDE VLB & I/O
- Teac 1.2 & 1.44 Floppy Drive
- 245MB Hard Disk
- 2s, 1p, 1g I/O Port
- Orchid Fahrenheit VLB
- Viewsonic 15 Monitor
- Keytronic 101 keyboard

Diamond	
SpeedStar Pro VLB	$125
Stealth 24 VLB	$155
Stealth Pro 2mb VLB	$345
VIPER VLB	$395
MATROX	
MGA ULT/2/A	$645
MGA ULT/2/V	$665
MGA IMP/3/A	$982
MGA IMP/3Z/A	$1133
MGA IMP/3/V	$985
MGA IMPRESS SVGA	$595
MGA IMPRESSION 1024	$695
MGA IMPRESS/ULTRA	$3210
ORCHID	
Fahrenheit 1280 Plus	$159
Fahrenheit 1280 VLB	$139
Celsius 1mb VLB	$225
P9000/ VLB	$395

MAG				
MX15F	15"	.28	1280	$530
MX17F	17"	.28	1280	$965
NANAO				
F340i	15"	0.28		$699
F550i	17"	0.28		$1100
T560i	17"	0.26		$1745
T660i	20"	0.31		$2499
NEC				
4FGe	15"	1024X768	76 Hz	$739
5FGe	17"	1024X768	76 Hz	$1129
5FG	17"	1280X1024	74 Hz	$1449
6FG	21"	1280X1024	74 Hz	$2419
OPTIQUEST		800S		$219
ViewSonic				
15	15"	.28	1280	$525
7	17"	.28	1280	$875
17	17"	.28	1600	$1075
20	20"	.28	1600	$1849

CONTROLLER	
Adaptec 1542CKT SCSI	$249
Adaptec 1742A SCSI EISA	$415
Ultrastor 24F EISA SCSI	$365
Ultrastor 34F VLB SCSI	$275
HARD DISK	
Maxtor MXT-540A 540MB IDE	$889
Maxtor MXT-540S 540MB SCSI	$799
Maxtor MXT-1240S 1.2GB	$1239
Fujitsu M2624T 520MB IDE	$679
Fujitsu M2624FA 520MB SCSI	$669
Fujitsu M2694S 1.2GB SCSI	$1079
Fujitsu M2652S 2.0GB SCSI	$1899
Quantum PD12251.2GB SCSI	$1089
FAX/MODEM	
Hayes Ultra V.32 bis Ext.Fax	$625
HayesAccuraV.32 bis Int Fax	$230
US Robotics 14.4K Ext. Fax	$190
US Robotics 14.4K Int Fax	$180
Zyxel USA 14.4K Ext. Fax	$619
Zyxel USA 14.4K Int Fax	$415

MIRACLE
COMPUTERS, INC. *SINCE 1985*

FOR ORDERS CALL:
M-F 9:00-5:30
Sat 9:00-4:00
1-800-446-9929

780 MONTAGUE EXPWAY, SUITE 202
SAN JOSE, CA 95131

TEL: (408)435-8177
FAX: (408)435-8179

WE WILL
MATCH
OR BEAT
ADVERTISED PRICE!

CASE & POWER SUPPLY

MINI TOWER (200W) CASE w/PS.	$55
MED TOWER/6 SLOT/LED w/PS	75
FULL TOWER CASE/235W	108
AT BABY CASE W/PS	55/65
XT 150W/200W PS	31/36
AT 200W/230W PS	40/45
MaxiSwitch KB 101	35
Adaptec 1542/1522 SCSI H/F/C	115/205
Microsoft Serial Mouse	55
Pen Mouse	29

FLOPPY & HARD DRIVES

Teac 1.2/1.44 FD	$50/43
Maxtor 120 MB IDE	185
Conner 200 MB SCSI	295
Quantum 170 MB IDE	209
Maxtor 130 MB, 16ms	185
Maxtor 7213, 200 MB SCSI	285
Toshiba 3401B SCSI, 200ms CD-ROM	475
CD-ROM Creative Labs 380ms	219
Sound Blaster Pro w/Midi Pkg	95
Sound Blaster	74
Video Blaster	$LOWEST
Sound Blaster Pro 16 Bit	179
All CD Titles	SALE! SALE! SALE!

PRICE WARS!

CD-ROM SALE

CD-ROM DRIVE
Sound Blaster Pro
& CD programs (5-Titles)
FREE INSTALLATION!!
FROM
$395

MOTHERBOARDS

386SX-33/25 w/CPU	$107/99
Orchid 486DX2-66, VLB, 256K w/o CPU	235
Nice USA 486DX2-66, VLB, 256K w/o CPU	215
486DX-50, 128K/256K Cache w/o CPU	128/145
386DX-40, 128K Cache w/CPU	148
486DX-33/50, 256K, VESA Local Bus	155/165

CALL FOR CURRENT CPU PRICES

MEMORY UPGRADES

1MBx9-80/70 SIMM	$62
4MBx9-80 SIMM	179
CPU & DRAM	LOWEST
HP LASERJET II, IIP, IID, MEMORY UPGRADES 1/2/4 MB KITS	80/119/199

MONITORS & VGA CARDS

VESA Local Bus VGA 1 MB	$105
Orchid F1280, 1MB	155
Orchid F1280, VLB	175
MGC 14" Non-Interlace VESA 72Hz 1024x768 0.28mm SVGA	305
ViewSonic 6E/5E SVGA	LOWEST
SVGA 1024x768 MGC .28mm	265
SVGA 1024x768 MGC .39mm	215
VGA 640x480 IBM PSI	199
15" SVGA 1280x1024 .28mm VESA	395
Tape Back-Up 120 MB	145
Zoltrix 96/24 Fax Modem	68
Zoltrix 14.4 Fax Modem	165
2400 Baud Int/Ext Modem Hayes	42

BOZEMAN
MARKETING GROUP, INC.
16 CORNING AVE. SUITE 120, MILPITAS, CA 95035
(Inside United Center on S. Main St. & Corning)

Mon-Sat 10AM-6PM
TEL: (408) 263-3158
Fax: (408) 263-6763

check the source. I looked over his shoulder. We looked at each other.

What we were looking at was either the most brilliantly executed gotcha I had ever encountered, or, well...precisely what it appeared to be. Crane wasn't a practical joker and neither was I, but after Lazslo's party all the usual suspects knew what we were up to, and half a dozen of them would enjoy nothing more than sending us on a merry chase. Art copied the source identifier, "HGIDB11-23@NIH.GOV" into his notebook, tore out the page, and said, "I think you'd better verify this across the Net, and don't use any software we've developed this week; it may have been tricked."

Just to be extra careful, I dialed into one of the commercial compute services the company subscribed to and used standard retrieval and image processing tools in that system's library to extract the image from the location Crane's filter had spotted it, accessing the read-only master published copy of the database across the Net. It took me two hours to be sure.

When I returned to Crane's office, the eastern sky was brightening with dawn. It was going to be one of those windy January days when the air is so clear even the distant mountains seem close enough to touch. Yet on this morning, only the weather seemed clear.

Crane had also been checking out the Message.

If I'd been more selective in choosing data to scan, we'd never have found it. There could be no doubt; the Message was real, and it was right smack in the middle of where it most definitely didn't belong. We had found it in the NIH Human Genome database.

* * *

Every human who'd turned his eyes skyward wondering, "Are we alone?" had been carrying the answer, all along, in every cell of his body. Since then the same Message has been found in every mammalian genome that's been dumped, yet nowhere else in the animal kingdom.

That checks with the age of the Message. Three of the boxes in the middle of the Message are orthogonal views of the Local Group galaxies, centered on the nucleus of the Milky Way. Running their motion forward from the positions in the chart to the present day dates the Message at about 250 million years before the present: just about the age of mammals. The orrery indicates they came from the fifth planet of a star with six terrestrial planets and three gas giants. Which star? Nobody has a clue, and what with differential motion over an entire circuit of the Galaxy, any position in the Message would be worthless anyway.

Whoever wove that Message into our DNA meant it to last until we figured out how to read it—it's built inextricably into the protein expression mechanism so any organism with a corrupted copy won't be viable.

It's obvious in retrospect. If a visitor wants to leave a message, why not make it a self-reproducing, error-correcting message that any sentient race would stumble upon as soon as they undertook to reverse engineer their own design?

Crane immediately suggested what's become the consensus hypothesis about the number at the bottom of the Message. He thinks it's the product of very large prime numbers and that when we manage to factor it, they'll be the key to decode the second Message. Two problems: first, we either need to learn a whole lot more about factoring, build computers a million times faster than the latest quantum electronic models, or else wait the tens of millions of years it looks like factoring that number will take.

Second, we have yet to find the other Message. Nothing more has been found in the genome, although Crane and many others suspect the factors of the key number may direct us to additional information there. The intensive radio SETI program sparked by the Message has proved barren. So have the planetary explorations of the past fifteen years, spawned by the possibility that those who placed the Message may have left a calling card somewhere in the Solar System. More recently, the limitations of robots in seeking the unexpected has triggered the rapid expansion of the human presence into space. If we've found nothing, we've learned much, and perhaps we've taken our first steps in the footprints of those who left the Message in our genes.

Crane believes that when we find the second Message and are able to read it, we'll have proved ourselves ready for the instructions it contains. He thinks it will tell us how to find those who left it, and how to go there.

We'll return, after this Message, and I think they'll be proud of us. They were already proud when they put the Message there a Galactic year ago. Proud enough to have signed their work. ■

YOUR ONE STOP SHOP IN SOUTH SAN FRANCISCO

With Quality Systems, Great Prices! and a knowledgeable Staff, Comet Micro Systems is the One!

Voted one of the Best Ten Computer stores in the Bay Area!

AMI Super Voyager 486DX2

66MHz VESA Local Bus System
Intel 486DX2-66MHz, 256K RAM Cache
Full Size Tower with 250W Power Supply
AMI Super Voyager VLB System Board
8MB RAM 70ns Installed, Exp. to 256MB on Board
Teac 1.2MB and 1.44MB Floppy Drive
Maxtor LXT7345 345MB IDE Hard Disk
Built-In VESA Local Bus IDE Host Adapter
2 High Speed Serial & 1 Parallel Ports
ATI Graphic Ultra Pro VLB with 2MB VRAM
NEC 4FGe 15" .28mm SVGA Monitor 76Hz
Keytronic 101 Keys Enhanced Keyboard
Microsoft Dos & Windows w/ Disks and Manuals
Logitech Mouse Man 400dpi Serial Mouse

$ 3,150.00

EISA VESA Local Bus System, Please Call

SPECIALS OF THE MONTH

15" NEC 4FGe 1024x768 .28mm 76Hz NI Monitor	$699
Sound Blaster Pro 16 ASP with CD-ROM Interface	209
SummaSketch III 12x12 4 or 16 Buttons Digitizer	279
Fujitsu 520MB IDE/SCSI II Hard Disk	649
Quantum 520MB IDE/SCSI II Hard Disk	649
ThrustMaster Flight Control System Joystick	82
Pro Audio Spectrum 16 Sound Card with SCSI Interface	149
Toshiba CD-ROM 256K Buffer 200ms 330KB/sec.	419
NEC CDR84 Internal MultiSpin CD-ROM 280ms	439

Intel Satisfaxtion with FAXability for Windows

Model 200 Int. 14.4K/2400 Fax/Modem	**$275**
Model 300 Int. 9600/14.4K Fax/Modem	**249**
Model 400 Int. 14.4K/14.4K Fax/Modem	**395**

PLEASE CALL FOR ITEMS NOT LISTED

Orchid VESA Local Bus System

486DX 33MHz with 256K Cache
Intel 486DX-33MHz Processor Installed
Mini Tower Case with 230W Power Supply
Orchid 486DX-33MHz VLB w/256K Cache System Board
Intel DX2 66MHz Upgradable
4 MB RAM 70ns, Exp. to 32MB on Board
Teac 1.2MB and 1.44MB Floppy Drive
Conner CP30204 212MB 256K Cache
Orchid VLB IDE 2 Hard/2 Floppy Drive Controller
2 Serial / 1 Parallel / 1 Game Ports
Orchard Fahrenheit 1280 VESA Local Bus 1MB RAM
MAG MX15F 15" SVGA 72Hz Digital Monitor
Keytronic 101Keys Enhanced Keyboard
Logitech Mouse Man 400dpi Serial Mouse

$1,995.00

Customize System, Please Call

System Boards

All system boards come with CPU & no RAM

AIR 486DX-33/ 50MHz 3 VLB Slot, 256K Cache	$CALL
AMI Enterprise III 486DX2 66 256K EISA VLB	1350
Diamond FastBus 486DX2 66MHz 256K Cache	950
Orchid SuperBoard 486 VESA Local Bus 256K	CALL
Micronics 486DX2-66MHz VESA Local Bus 256K	895
NICE US Made 486DX Mini EISA VLB 256K	CALL
NICE US Made 486DX-33MHz ISA VLB 256K	525
Comet 486DX 33MHz VLB 128K with ZIF Socket	495
Comet 486DX 33MHz ISA 128K Cache	450
Comet 386 40MHz 128K RAM Cache	200
Comet 386SX 25MHz with CPU	150

Hard Drives

Conner CP30104 120MB 17ms	$179
Conner CP30174E 170MB 17ms	209
Conner 30204 212MB 256K Cache 12ms	249
Conner CP30304 340MB 12ms	339
Maxtor LXT7120A 130MB 15ms	189
Maxtor LXT7213A 212MB 15ms	249
Maxtor MXT7245A 245MB IDE 15ms	269
Maxtor LXT7345A 340MB 13ms	329
Fujitsu Hard Drives: 5 Year Warranty	
Fujitsu M2624 520MB IDE 3.5" 11ms	649
Fujitsu M2624 520MB SCSI 3.5" 11ms	649
Quantum ELS 85AT 85MB IDE	179
Quantum ELS127AT 127MB IDE 15ms	199
Quantum ELS170AT 170MB IDE Hard Disk	229
Quantum LPS240AT 244MB IDE 256K Cache	255

Floppy Drives

Teac 360KB/1.2KB 5.25" Floppy Drive	$50/50
Teac 3.5" 1.44MB Floppy Drive	50
Teac Dual 1.2 & 1.44MB Floppy Drive	139

Power Supplies

200W XT Size Power Supply	$59
250W AT Size Power Supply for Desktop	59
230W PS2 Size Power Supply	59
250W AT Size Power Supply for Tower	69
300WPC Power Cooling for Full Tower	185

Scanners

Umax UC630 600dpi 24bit Flatbed Color Scanner	$995

Monitors

12" Samsung Amber Monochrome Monitor	$110
14" Samsung Paper White VGA Mono Monitor	135
14" Addonics VGA 640x480 Color VGA Monitor	240
14" Addonics SVGA 1024x768 .28mm Monitor	279
14" Addonics SVGA 1024x768 .28mm NI Monitor	309
14" ViewSonic 6E SVGA 1024x768 NI Monitor	329
14" Sampo AlphaScan 1024x768 72Hz NI Monitor	370
15" Sampo AlphaScan 1024x768 70Hz NI Monitor	470
15" MAG MX15F 1280X768 .28mm SVGA Monitor	565
15" NEC 4FGe 1024x768 .28mm 76Hz NI Monitor	699
17" Sampo AlphaScan 1024x768 70Hz NI Monitor	770
17" Sony 1730 1024x768 70Hz .25mm NI Monitor	999
17" ViewSonic 17 1280x768 .28mm NI Monitor	1219
17" Nanao F550i 1280x1024 .28mm 75Hz Monitor	1050
17" MAG MX17F 1280x768 .26mm NI Monitor	1050
17" NEC 5FG 1280x1024 74Hz .28mm Monitor	1350
20" Sampo AlphaScan 1280x1024 .31mm Monitor	1199
20" ViewSonic 20 1280x1024 .31mm NI Monitor	1899
21" Nanao F750i .31mm Flat Screen Monitor	2099

Multimedia

Media Vision Fusion CD 16 Multimedia System	$479
Pro Audio Spectrum 16 Sound Card with SCSI Interface	149
Sound Blaster Pro 16 ASP with CD Rom Interface	209
NEC CDR84 Internal MultiSpin CD-ROM 280ms	439
Toshiba CD-ROM 256K Buffer 200ms 330KB/Sec.Int/Ext	419/519
Future Domain 8bit CD-ROM Adapter w/ Driver	65
Intel Smart Video Recorder	525

Modems

US Robotics Courier and Sportster Modems	$CALL
Intel SatisFAXtion Model 200 14.4K/2400 Fax/Modem	275
Intel SatisFAXtion Model 300 9600/14.4K Fax/Modem	249
Intel SatisFAXtion Model 400 14.4K Fax/Modem	395
Intel SatisFAXtion Model 400e 96/14.4K Ext. Modem	425
Intel 14.4EX External Modem with 16MHz Processor	449
GVC 14.400 V.32bis V.42bis Int./ Ext. Fax/ Modem	165/185
GVC 96/2400 Baud Internal Fax/Modem	70
Complete PC 96/24 Fax/Modem for Windows	109

Network

Ethernet & Arcnet Adapters	$CALL
Artisoft Lantastic Products	CALL
Novell Netware & Network Adapters	CALL

Video Adapters

ATI Graphic Vantage 1MB & 400dpi Mouse	$189
ATI Ultra Plus 2MB DRAM & 400dpi Mouse	279
ATI Ultra Pro ISA 2MB VRAM Video Adapter	359
ATI Ultra Pro VLB 2MB VRAM Video Adapter	359
ATI Ultra Pro EISA 2MB VRAM Video Adapter	409
Diamond SpeedStar Pro ISA/ VLB 1MB RAM	145/145
Diamond Stealth 24 VLB 1MB RAM Accelerator	185
Diamond Stealth Pro VLB 1MB/ 2MB Accelerator	265/365
Diamond Viper VLB 2MB VRAM Video Adapter	429
Hercules Graphite ISA 1MB VRAM Accelerator	260
Hercules Graphite VLB 1MB/2MB VRAM Accelerator	299/420
Orchid Fahrenheit 1280 Plus ISA w/ 1MB RAM	169
Orchid Fahrenheit 1280 VLB 1MB Video Adapter	179
Orchid Fahrenheit 1280 Voice Annotation 1M VLB	209
Accumos Windows Accelerator 256/ 512K	45/65
Trident 8900 Chip Set 1MB SVGA Adapter	69
#9 GXi Video Adapter Lever 25 to 29TC	CALL
#9GXE Level 10/11/12 Graphics for Windows	CALL

Input Devices

Keytronic / Mitsumi 101Keys Enhanced Keyboard	$45/40
Northgate 101 or 102 / Ultra Enhanced Keyboard	79/89
Logitech 400dpi Serial/Bus Mouse Man	58/78
Microsoft 400dpi Serial/Bus Mouse	75
SummaSketch III 12x12 4 or 16 Buttons Digitizer	279
Thrusmaster Flight Control System Joystick	82

Controllers & Adapters

2 Serial, 1 Parallel, 1 Game Ports Card	$18
IDE with 2 Serial, 1 Parallel, 1 Game Ports	30
Kouwell 2S/1P/1G w/ HiSpeed 16550 UART Chip	59
Ultrastor ESDI Controller w/32K Buffer	169
UltraStor 34F VESA Local Bus SCSI Bus Master	265
Adaptec 1522/ 1542C Kit SCSI Host Adapter	155/255
Adaptec 1742 EISA SCSI 32Bit Adapter Kit	429
Promise IDE W/ 512K Cache Upgradable to 8.5MB	135
Promise IDE W/ 0MB Cache Upgradable to 16MB	155
Promise IDE VLB Cache Host Adapter	239

Tape Backups

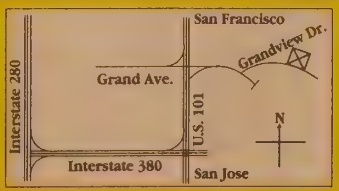
Colorado 250MB Ext. Parallel Port Tape Backup	$399
Colorado 120/250MB Internal Tape Backup	159/189
Palindrome DAT Tape Backup for Novell Netware	CALL
Mountain & Archive Tape Backup	CALL

NO SURCHARGE ON CREDIT CARDS

Comet Micro System
1301 Grandview Drive
South San Francisco, CA 94080
Phone: (415) 615-9123 Fax: (415) 615-0287
MON-FRI 9am to 6pm, SAT 10am to 5pm

MasterCard

VISA



TERMS & CONDITIONS

Prices subject to change w/o notice. Not responsible for typos/errors. No surcharge on credit cards on advertised prices only. Please call for items not listed. One year warranty on all parts. Three years warranty on labor. Dealer & Quantity pricing available.

Power, Performance and
to Buy Your Next System

PRESTIGE
PC
COMPUTER
PRESTIGE COMPUTER
PRESTIGE COMPUTER

Motherboard with CPU

* EISA VESA 486DX2-66 w/256K	$698
* EISA VESA 486DX-50 w/256K	$628
* EISA VESA 486DX2-50 w/256K	$578
* EISA VESA 486DX-33 w/256K	$498
* VESA Local Bus 486DX2-66 w/128K	$618
* VESA Local Bus 486DX-50 w/128K	$548
* VESA Local Bus 486DX2-50 w/128K	$498
* VESA Local Bus 486DX-33 w/128K	$418
* ISA 486DX2-66 w/128K	$598
* ISA 486DX-50 w/128K	$528
* ISA 486DX2-50 w/128K	$478
* AMD 486DX-40 w/128K	$418
* ISA 486DX-33 w/128K	$398
* ISA 486SX-25 w/64K	$188
* 386DX-40 w/64K	$138
* 386SX-33	$95
* 386SX-25	$90
* 286-20 MHz	$78
* 286-12 MHz	$68

Best Deal System

- Motherboard w/CPU
- Cache As Indicated
- AMI BIOS
- 4 MB of RAM (70ns)
- Maxtor 130 MB IDE Hard Drive (15ms)
- TEAC 1.2 and 1.44 Floppy Drives
- SVGA Monitor (1024x768) .28dp
- OAK Technology SVGA Card w/512K
- IDE Controller (2HD/2FD)
- AT I/O Card (2S, 1P, 1G)
- Mini Tower Case w/200W Power Supply
- Mitsumi 101 Enhanced Keyboard

* EISA VESA LB 486DX2-66 w/256K	$1,538
* EISA VESA LB 486DX-50 w/256K	$1,458
* EISA VESA LB 486DX2-50 w/256K	$1,388
* EISA VESA LB 486DX-33 w/256K	$1,278
* VESA Local Bus 486DX2-66 w/128K	$1,458
* VESA Local Bus 486DX-50 w/128K	$1,378
* VESA Local Bus 486DX2-50 w/128K	$1,318
* VESA Local Bus 486DX-33 w/128K	$1,208
* ISA 486DX2-66 w/128K	$1,428
* ISA 486DX-50 w/128K	$1,348
* ISA 486DX2-50 w/128K	$1,288
* ISA AMD 486DX-40 w/128K	$1,258
* ISA 486DX-33 w/128K	$1,178
* ISA 486SX-25 w/64K	$998
* 386DX-40 w/64K	$928

Prestige Computer Inc.

408-249-3398 Fax: (408) 249-3392
3248 Stevens Creek Blvd., San Jose, CA 95117
Hours: Monday-Saturday 9:00am-7:00pm; Closed Sunday

Price Aren't the Only Reasons
from Prestige Computer

Serving the Bay Area Since 1986

Special of the Month

EISA VESA 486DX-50MHz $1899

- Intel CPU
- VESA Local Bus Motherboard
- 128K Cache
- AMI BIOS
- Genoa Vesa Local Bus SVGA Card w/ 1MB
- VESA Local Bus IDE Controller Card 2HD/2FD
- Maxtor 213MB IDE Hard Drive (13MS)
- TEAC 1.2 and TEAC 1.44 Floppy Drive
- 4MB of RAM (70ns) Expandable to 32 MB
- **SVGA Non-Interlaced Monitor (1024x768 .28DP)**
- Medium Tower Case w/230W Power Supply
- Mitsumi 101 Enhanced Keyboard
- AT I/O Card (2S, 1G) Ports
- MS DOS 5.0 or 6 Package
- **MS Windows 3.1 Package**
- 3 Button High Resolution Serial Mouse and Pad

*VLB 486DX-33MHz	$1538
*VLB 486DX-50MHz	$1698
*VLB 486DX2-66MHz	$1778

VGA Cards

OAK 512K	$38
TRIDENT 1 MB	$56
GENOA 1MB	$89
CIRRUS LOGIC 1MB VLB	$98
DIAMOND S.STAR PRO	$128
DIAMOND STEALTH	$138
DIAMOND STEALTH 24 VLB	$148
DIAMOND STEALTH PRO VLB 2MB	$378
DIAMOND VIPER VLB 2MB	$389
ATI ULTRA PLUS 2MB	$309
ATI ULTRA PRO VLB 2MB	$389
ORCHID FAHRENHEIT 1280+	$148
ORCHID FAHRENHEIT VA	$188
ORCHID FAHRENHEIT VLB	$148
ORCHID P9000 (3MB) VLB	$358
VIDEO 7 WIN. 1MB	$80

Monitors

MEGA IMAGE (1024X768 .28) IN	$248
MEGA IMAGE (1204X768 .28) NI	$278
IMPRESSION 3 (HITACHI TUBE) IN	$268
SONY 1304S .25DP	$548
SONY 1430 (1280X1024 .25DP) NI	$588
SONY 1604S 17" NI	$938
VIEWSONIC 6E NI	$323
VIEWSONIC 15 (1280X1024 .28) NI	$558
VIEWSONIC 17 (1280X1024 .28) NI	$1208
VIEWSONIC 20 (1280X1024 .28) NI	$1698
NEC 3FGe	$608
NEC 4FGe	$728
NEC 5FGe 17"	$1095
MAG MX15F	$585
MAG MX17F	$1055

Brand New Hard Drives

85 MB 18MS	$168
120 MB 18MS	$188
130 MB 15MS (MAX)	$193
170 MB 17MS	$199
212 MB 12MS	$213
213 MB 15MS (MAX)	$238
245 MB 15MS (MAX)	$268
340 MB 13MS (MAX)	$348
540 MB FAST (MAX)	$788
1.2 GB SCSI (MAX)	$998

Modems & CD ROM

ZOLTRIX 2400 BAUD MODEM	$33
ZOLTRIX 9600FAX/2400 MODEM	$68
ZOLTRIX 14.4FAX/14.4 MODEM	$178
U.S. ROBOTICS 14.4FAX/14.4 MODEM	$195
SONY CD 31A	$239
SONY 541 (SCSI)	$399
TEXEL 3024 W/O CONT	$368
CREATIVE LABS MULTI UPGRADE KIT	$558
SOUNDBLASTER PRO DELUXE	$129
SOUNDBLASTER 16 ASP	$209

Miscellaneous

COLORADO 120 MB TAPE BACK-UP	$158
COLORADO 250 MB TAPE BACK-UP	$208
LOGITECH FIRST MOUSE	$48
LOGITECH DEXA	$23
LOGITECH MOUSEMAN	$65
LOGITECH TRACKMAN	$79
LOGITECH SOUNDMAN 16	$138
MICROSOFT SERIAL MOUSE	$48
PANASONIC & HP LASER PRINTERS	$BEST

Warranty

- 1 Year Parts/Labor
- Lifetime Phone Support
- 30 Days DOA Exchange

Services

- Free On-Line Tech Services
- 72 Hours QA and QC Burn in
- Ship Within 48 hours (Unless specified)
- No surcharge for credit cards
- 3% Discount for cash purchase

Quality

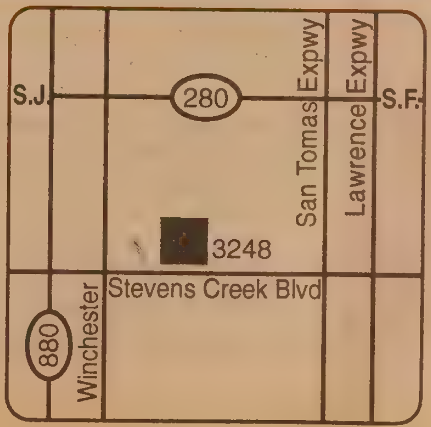
- Qualified Engineers
- Knowledgeable Staffs
- Reliable Parts (Tested) TEAC, Maxtor, NEC, Sony, ViewSonic OMNI, Orchid, Diamond, Genoa and Many More

Guarantee

- Customer Satisfaction is our one and only goal!

Terms:

- Freight charges are not refundable
- Damaged shipment is the carrier's responsibility
- Return items must have a RMA# -please call 408-249-3398
- All specifications & prices are subject to change w/o notice
- Dealer inquiries & government POs are welcome
- Credit terms are subject to approval
- Not Responsible For Typos



HURRY! Don't Miss This Limited Super Sale!

Price & Availability subject
to change w/o notice.
No surcharge for credit cards.
Not responsible for typos.
All items brand new with
manufacturer's warranty.
All brands are registered trademarks

newriver
PERIPHERALS

South Bay
408/
980-0669

510/623-9125
415/473-9050

Christy
X
088
Auto Mall Pkwy.
089
Durham

43102 Christy St. • Fremont
Fax 510/623-7592

STANFORD
EL CAMINO REAL
COWPER
TASSO
UNIVERSITY
WEBSTER
101
FREE PARKING

540 University • Palo Alto
Fax 415/325-2459

Hard Disks

Maxtor®

245MB 15ms IDE 7245A	$228
1.2G SCSI PO-12S	947
1.2G SCSI 1240S	1167
1.7G SCSI PO-17S	1177

CONNER

250MB IDE	$224
510MB IDE	544

MiTAC

486SX-33 Color 486SX-33/4MB/130MB w/Win 3.1 & Dos 6.0 loaded	$2195
486-33SLC 486SLC-33/4MB /120MB w/ Win 3.1 & Dos 5.0	$1445

USRobotics™

Sportster 14.4 FAX/MODEM PC internal / Mac external	$165/215

TOSHIBA

3401B CD-ROM Inter.	$429
877MB SCSI II	847

Motherboards

American Megatrends

SuperVoyager II 486-33/66 256k Cache	$695/895
Enterprise III 486-33/66 EISA VLB 256k Cache	875/1095

MICRONICS VESA Local Bus Motherbds/256k

VCP 486-33/66	$650/850
EISA VLB 486-33/66	850/1050

ORCHID Superbd 486-33/66 256k VLB No CPU	$195
Prima-USA 2 yr. warranty - USA Made 486-33/66 256k VLB No CPU	$185
Percom 486-33DX /66DX-128k No CPU	$115

Accessories

VIDEO GRAPHICS CARDS

ATI Mach 32 VLB 2MB	$345
Diamond Viper VLB-2MB	CALL
AMI FastView EISA-1MB	255
AMI FastView VLB-2MB	395
Celcius VLB 1/2MB	234/285
FahrenheitT VLB	155
Fahrenheit 1280+	135
Cirrus Logic VLB-1MB	85
Cirrus Logic 1MB w/IDE IO	125

MONITORS

SONY 1430 14" SVGA	$567
SONY 1604S 17" SVGA	935
SONY 1730 17" SVGA	999
SONY 2036/2038 20"	CALL
Viewsonic 6e	297
Viewsonic 15/17/20	CALL
MAG 15F/17F	575/995
NEC 3FGe, 4FGe, 5FGe	CALL
NANAO 550i, 560i, 750i	CALL

KEYBOARDS

Northgate Omnikey 101	$63
Omnikey 102 NI	63
Omnikey Ultra-T	93
101 Enhanced	17

LOGITECH

Firstmouse	$35
Mouseman	59
Scanm w/OCR	285
Scanman Color	545
Scanman/Mac	CALL
Scanman	235

CONTROLLERS

Prima Quest VLB IDE IO	$64
Wonder Systems Cont.	CALL
Quickpath Port•Folio 13-ports Super IO	$124
Ultrastor 34F SCSI VLB	269
Adaptec 1542C SCSI KIT	249
Promise DC4030VL up to 16MB cache	149

Hayes 2400B ext. Modem	$36

Software

Business & Desktop Publshing

Adobe Illustrator 3.2/Mac	$354
Aldus Superpaint/Mac	94
Clickart Studio Series/Mac	52
Coreldraw 3.0/4.0	145/384
CorelDraw 4.0 Upgrade	235
Excel/windows 4.0	295
Excel Upgrade 4.0/PC	129
Filemaker Pro /windows	129
Filemaker Pro/Mac	265
Framemaker/PC	475
IBM OS/2 v. 2.1	152
Lotus 123 /windows	298
MacDraw Pro/Mac	94
MS Office upgrade/PC	349
Paradox/windows 1.0	124
Print Shop Deluxe	49
Publish It!/Mac	112
Quicken 3.0/PC/Mac	39
SAM 3.5/Mac	68
Stacker for Mac	64
MS Video for Windows	124
Virex v. 3.9 for Mac	59
Others	CALL

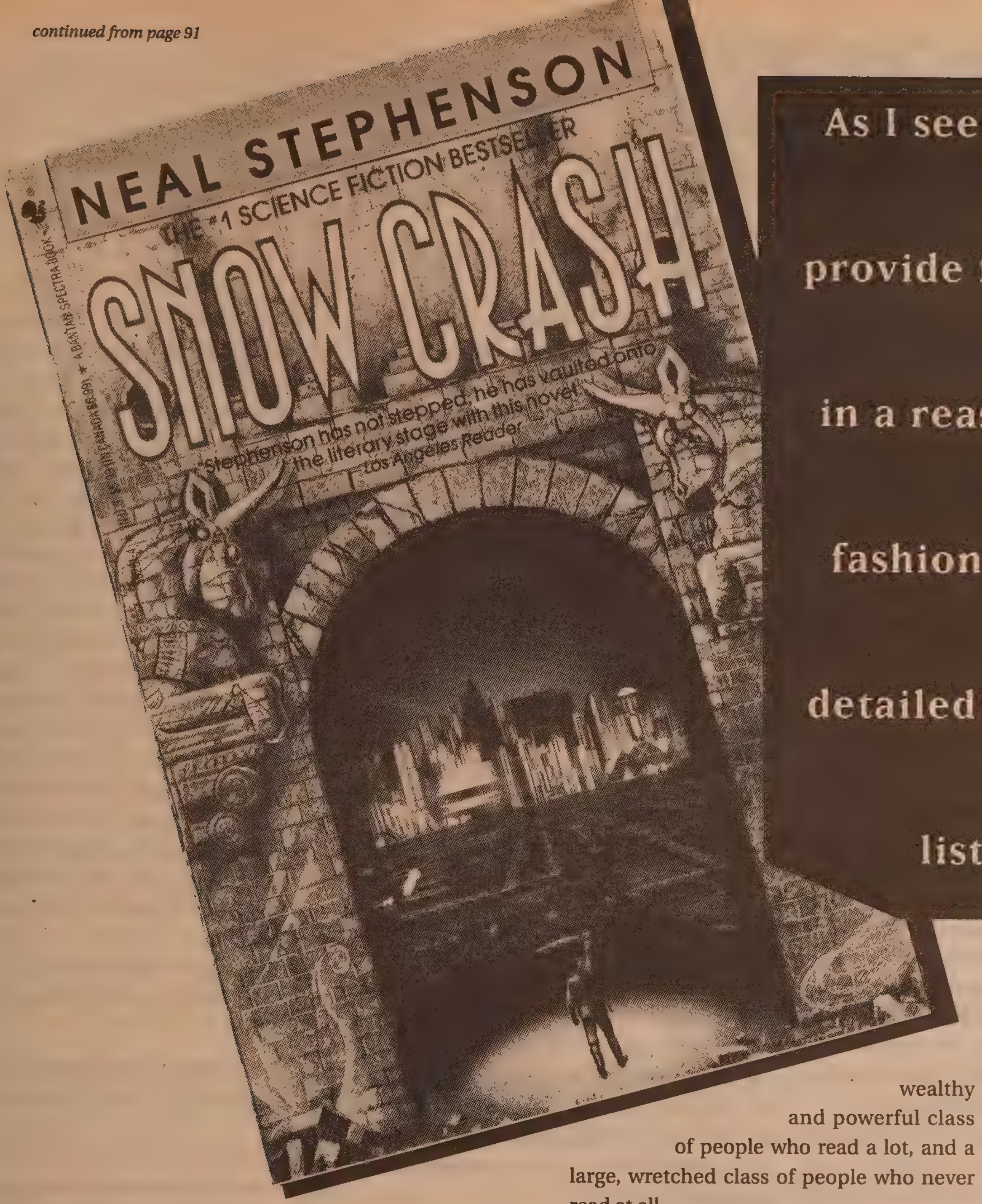
Educational

Just Grandma & Me Win//Mac	34
Kid Pix/windows/Mac	35
Kid Pix Companion	29
Number Munchers/Mac	19
Reader Rabbit 1/2 PC/Mac	34
Super Solvers Outnumbered!	39
Word Munchers/PC	19
Others	Call

GAMES for Nintendo, Sega, Genesis, IBM, Mac in Palo Alto

Macintosh Products are Available at our Palo Alto Location

continued from page 91


NEAL STEPHENSON
THE #1 SCIENCE FICTION BESTSELLER
SNOW CRASH
"Stephenson has not stepped, he has vaulted onto the literary stage with this novel."
—Los Angeles Reader

> As I see it, my role is to provide **food for thought** in a reasonably concise fashion, not to purvey detailed **explanations** or list **examples.**

Given the fact that hardware is coming right along, do you envision *Snow Crash*-like multimedia titles (interactive or otherwise) any time soon, and if so, would you prefer that to working in text?

This is the Content Question, which has been getting some attention (though perhaps not quite enough) in the current interactive media hoopla. I have numerous ideas for such projects and am investigating how to make them commercially practicable. I think we're going to see a lot more bad titles before we begin seeing good ones. The gap between the northern California high-tech mindset and the southern California entertainment-biz mindset is a lot wider than many people appreciate.

The more I work on interactive, the more appreciation I have for plain old text; I'm beginning to develop an almost numinous awe for the power of the written word. Text is the ultimate medium, especially for reaching the most highly intelligent segment of the population. One of the ideas nested in *Snow Crash* is that in the future we will have two social classes: a small, very wealthy and powerful class of people who read a lot, and a large, wretched class of people who never read at all.

Why text?

Video is highly literal, or at least it tends to be used that way. Text is inherently metaphorical and it forces you to use your brain in a more complicated fashion. Text can be created by one person with a pen while video requires tens of thousands of dollars in equipment and cooperation among numerous highly trained people. That's one thing we learned on the *Snow Crash* project, by the way—we were suckered by the idea that a home camcorder and garage production techniques could give us acceptable quality, and we learned the hard way that it wasn't so. It takes some time to learn how to use text properly—I'm still learning every day—but once you've got the hang of it you can create extremely complex webs of metaphors and allusions that deliver vast cognitive bandwidth over minimal informational bandwidth.

Think of it as a very efficient compression algorithm—reminiscent of fractal image compression in some ways—that requires a lot of power and a large database to decompress. Not all readers have developed the skill or accumulated the database, so it looks like gibberish to them. I can remember reading Dickens when I was in high school and having a terrible time with him. I thought he was dull and incomprehensible. Now that I'm in my 30s, I'm reading Dickens again and I'm getting it—I think he is hilarious, and uncannily precise in his use of language. My brain has learned to decompress Dickens's prose into mental constructs whose extreme complexity could never be guessed from the paltry trickle of bytes that makes up one of his sentences.

As for the haves/have-nots debate, compare the caliber of information available in, say, *The Economist* and the *Wall Street Journal* to what you can get by watching the news. There is something about the process of translating events into words that clarifies what is really going on and filters out the glamorous irrelevancies. Text has the power of generalization and abstraction while video is relentlessly concrete.

I honestly don't think all the digital media in the world are going to make print go away. But at the same time, it also seems to me that extremely well educated people in their 20s are *very* literate in terms of movies, videos, etc. and not text-literate at all. I think we're arguably *already* in the post-text age to some extent.

Depends on who you are and what you do. This is certainly true for the mass of people. But if you hop a commuter train into New York City on any weekday, you'll see one coach after another filled with very affluent people in business suits who are all reading one thing or another. If you saw those same people carrying Newtons or watching video programs on Watchmans, you'd be amazed by how this new medium had penetrated the highest echelons of our society.

Any ideas what to *do* about the have/have-not problem in this regard?

I think it's fundamentally a cultural thing and that there is not much we can do to change cultures.

Based on the current and predictable state of the art, how do you think all this multimedia technology is going to evolve?

This might be kind of surprising given the contents of *Snow Crash*, but I don't really see a large mass market for fully immersive VR. Most people have to keep an eye on the kid or an ear on the doorbell and can't afford to immerse themselves in anything. It's more likely we'll see VR-through-a-window on our TV sets.

Given that people can't even program VCRs it's unlikely that they will be constructing their own virtual environments in significant numbers. This activity should attract a small cult of hobbyists, like model railroaders. It's true that the portions of the Metaverse shown in *Snow Crash* are intended more for interaction with other users, or telepresence, and less for consumption as entertainment. Partly this is a question of emphasis. The Metaverse has amusement parks but Hiro doesn't go to them. But experience suggests that people love to use computers as a way to connect with each other and so there should be a large market for such applications in any kind of networked VR scheme.

How do you see the relationship of the virtual and physical worlds evolving? Will most people spend much, or even most, of their time "escaping reality"? Will it be a classist kind of deal with a substantial underclass that's stuck in physicality?

As I said, I don't think that many people will do the immersive thing. It'll be big with the same people who play lots of video games today: teenagers and a few adult aficionados. The popularity of VR-in-a-window applications will simply depend on how how large an audience they appeal to. If there's any element of class stratification, it'll have more to do with which applications a user chooses, not whether they choose them. I'm hoping there will be ways to make applications that will be good for your mind, but I suspect most of them will be, as William Gibson put it better than I can, "like mainlining American television."

To what extent is the goggled-in person doing the same thing a lot of us did as kids, which was to spend days immersed in books until our moms told us to go outside and get into Reality?

Again, depends on the application. Reading text exercises your brain even if it's crappy text. I hope that some forms of interactive media will make people smarter and that people who spend days immersed in them will be the better for it.

***Snow Crash* raises a lot of social issues, one of them being the impact of technology on people's privacy. Do you think privacy is a lost cause? What, if anything, do you think of the cypherpunks?**

I'm inclined to think that encryption schemes are always going to stay a step or two ahead of efforts to crack them.

Even if this is not the case, the fact is that it takes a lot of effort systematically to violate people's privacy. Prominent individuals will always have hassles, but most of them can afford countermeasures.

If you're a member of the general public you don't have that much to worry about. If you see the magnitude of the operations put together by the likes of the CIA just to keep track of a small number of suspected foreign agents you can get a sense of how hard it is systematically to track large numbers of people. There's no profit in it unless you're running a police state and you can print your own money. This is the principle that the cypherpunks are taking advantage of with PGP, which is crackable but simply adds to the hassle factor and makes it even less profitable.

I'm a lot more concerned about people's privacy within the context of large institutions.

What scares you about current technology; what encourages you?

I'm more worried about the old technology falling into the hands of complete dickheads. Hopefully we can use our edge in new technology to protect ourselves after this happens.

Could you elaborate a bit on these things?

Reasonably imaginative readers should be able to puzzle out what I mean here. As I see it, my role is to provide food for thought in a reasonably concise fashion, not to purvey detailed explanations or list examples.

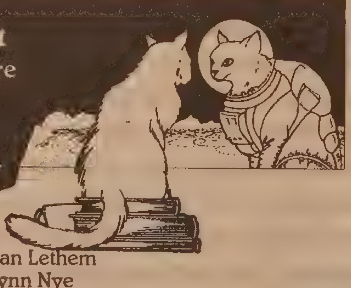
Was there particular real-life stuff that caused you to concoct some of the nightmare scenarios in *Snow Crash?*

Not in particular. Examples abound.

Something completely different—as a programmer, what kinds of projects do you like working on?

Since I do it on my own, I only work on things I really enjoy. The *Snow Crash* work was primarily image processing, which is not especially interesting in and of itself. Most of it was user interface code, which is typical in a GUI application. As a result, I've gotten to the point where I'm sick of doing user interface work and would prefer to work on the underlying meat of an application. Lisp, especially the Mac imple-

The Other Change of Hobbit
a science fiction & fantasy bookstore
celebrating ConFrancisco:
the World Science Fiction Convention,
Sept 2-6
with a marathon of author appearances:



- Pat Cadigan
- Ellen Datlow
- Joe Haldeman
- Holly Lisle
- Jerry Pournelle
- Carol Severance
- Susan Shwartz
- Harry Turtledove
- Greg Costikyan
- Jean Mark Gawron
- Michael Kandel
- Maureen McHugh
- Jennifer Roberson
- Charles Sheffield
- S. M. Stirling
- Walter Jon Williams
- Jonathan Lethem
- Jody Lynn Nye
- Kristine Kathryn Rusch
- Lucius Shepard
- Amy Thomson
- William. F. Wu

please call for dates, times and more authors!

- over 25,000 new, used & hard-to-find books, tapes & magazines.
- friendly, knowledgeable and helpful staff.
- stop in and browse at our new location
- a block from Berkeley BART, between Addison and University

Hours
Sun noon-6pm
Mon-Sat 11am-8pm

2020 Shattuck Ave
Berkeley, CA 94704
(510)848-0413

Snow Crash cont.

mentation, is good for that.

I've spent a lot of time playing around with fractals, simulations, genetic algorithms, and other stuff that interested me at one point or another. Rendering is a lot of fun. In particular I've had a lot of fun playing around with the RenderMan shading language. Unfortunately, on my current equipment it takes so long for a job to render that I have limited patience with such projects.

As sort of a meta-question, what's your personal opinion as to why there is this huge overlap between the science fiction and computer communities?

SF typically revolves around the creation of a whole alternate world. The particular storyline described in an SF story or novel is just one thread in an interlaced fabric of stories that, taken together, describe the world and its people as a whole. That's why SF lends itself so well to sequels, or even whole series of books: once the imaginary world is created it can support numerous characters and plots.

Why this appeals to computer people is an interesting question. It's not the technology angle, because the same argument applies to fantasy fiction which has no technological content at all. A coder's job is to become intimately familiar with the geography of an operating system, which is a kind of synthetic world, and to exploit its internal rules and quirks in order to accomplish some goal, and I think that there is some congruence between this and the above-mentioned characteristics of SF. ■

We Buy Excess Inventory!

WE BUY EVERYTHING, SOFTWARE, PC & MAC HARDWARE, TERMINALS, IC'S, ETC.

"THE BIGGER THE QUANTITY THE BETTER!"

CALL OR FAX YOUR LIST
WE WILL RESPOND IMMEDIATELY

SOFTWARE BLOWOUT

MAC DRAFT (MAC)	$25
MICROSOFT WORD 5.0 (MAC)	75
MICROSOFT EXCEL 4.0 (MAC)	99
MICROSOFT EXCEL 4.0 WINDOWS	120
LOTUS 1-2-3 FOR WINDOWS 1.1	45
LOTUS AMI-PRO 2.0	45
NORTON DESKTOP 2.2 FOR WINDOWS	90
SUPERSTORE 2.0	15
WORDPERFECT 5.2 WINDOWS	250
AMISH UTILITIES FOR WINDOWS	15

Strata Remarketing

(510) 656-9848
FAX (510) 656-9891
46560 Fremont Blvd. #302 Fremont, CA 94538

WIT...THE LAST WORD IN HIGH PERFORMANCE SYSTEMS!!

A Open VESA 486 LXV Series
(6 EISA Bus Slots, Plus 1 VESA Local Bus Slot)

486DX2-66/DX2-40	$1590/$1430
486-DX-50/DX-33	$1540/$1390

A Open ISA 486 GXi Series

486DX2-66/DX-40	$1510/$1350
486DX-50/DX-33	$1460/$1320
486SX-33/SX-25	$1220/$1160

IBM 486 SLC Series

486SLC-66/SLC-50	$1290/$1230

Acer Open
Systems Division... A Open
The Perfect Combination...Cutting-Edge Technology and Affordability!
These Great Systems Include:
- A-Open 486 Motherboard exp up to 32 MB
- 4 MB RAM w/256K Cache
- Teac 1.2 and 1.44 MB Floppy Drives
- Conner or Maxtor 130 MB IDE Hard Drive
- IDE 2FD/2HD Controller w/2 S/1P/1G Ports
- Windows Accelerator Video Card w/1 MB
- AcerView 34T, 14" SVGA .28dp, NI Monitor
- AcerTouch 32G, 101 Key Keyboard
- Acer BD24, Exclusive Mid-Tower/Full Desktop Dual Case
- 250W Power Supply
- 72 Hours Burn-In and Fully Tested

WIT High Performance Systems

WIT VESA 486DX2-66/DX-40 w/256K Cache	$1480/$1300
WIT VESA 486DX-50/DX-33 w/256K Cache	$1400/$1280
WIT ISA 486DX2-66/DX-40 w/256K Cache	$1410/$1200
WIT ISA 486DX-50/DX-33 w/256K Cache	$1290/$1220
WIT ISA 486SX-33/SX-25 w/256K Cache	$1100/$1060
WIT 386DX-40 w/128K Cache	$ 970
WIT 386SX-33	$ 920

- 4 MB RAM
- 1.2MB & 1.44 MB Floppy Drives
- 120 MB Hard Drive
- IDE FDD/HDD Controller
- 2 Serial/1 Parallel/1 Game Port
- Mini-Tower Case w/230W Power Supply
- 101-K Keyboard
- Windows Accelerator SVGA w/1 MB
- 14" SVGA Non-Interlaced .28 dp Monitor
- 72 Hour Burn-In & Fully Tested
(Note VESA Local Bus Comes With 32-Bit VLB & 32-Bit VLB SVGA)

Enhance Your System's Capabilities...

NOTEBOOK

486-SLC33 VGA COLOR w/120 MB	$1870
486-SLC33 VGA MONO w/120 MB	$1410
486-SLC25 VGA COLOR w/80 MB	$1800
386-SL25 VGA COLOR w/80 MB	$1520

Systems Include:
- 2 MB RAM
- 1.44MB 3.5" FDD
- Color VGA LCD 640 x 480 Res, 9" diagonal
- Paper White VGA 10" LCD 640 x 480, 64 Gray Scale
- Ext VGA Port
- Color Notebook Comes w/ 387 Math Co-Processor
- Connector for Docking Station
- 1 Par/1 Ser
- Dual Ni-CAD Batteries and Adapter
- 8.5"x11"x1.73" Only 5.7 Lbs
- Carrying Case
- Built-In 2-Button Trackball

NOTEBOOK UPGRADES:

120 MB Hard Drive	Add $120
FAX Modem	Add $120
Memory Per MB	Add $55

SYSTEM OPTIONS:

Upgrades:	Add To System Price
170 MB HD	$20
210 MB HD	$70
250 MB HD	$80
340 MB HD	$160
535 MB HD	$550
ViewSonic 15"	$280
ViewMagic	$150
NEC 3FGX	$350
Diamond Stealth	$175
Diamond 24X	$100
Additions:	
1 MB RAM (each)	$55
One Floppy Drive	$50
2400 BD Modem	$38
96/24 Fax Modem	$56
14400 Fax Modem	$185
CPU Fan	$17
3 Button Serial Mouse	$12

Downgrades:	Subtract From System Price
100 MB HD	$15
80 MB HD	$25
14" SVGA .39 dp	$38
14" SVGA .28 dp Interlaced	$20

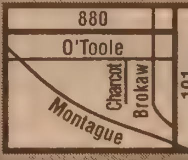
COMMITMENT TO SERVE YOU:
- NO Restocking Charge
- 1 Years Parts/Lifetime Labor Warranty
- Customized Systems
- Government P.O.'s Welcome

ALL AROUND SATISFACTION:
Stanford University, UC Berkeley, IBM,
United Postal Service, Lockheed
General Electric, AT&T,
Quantum, Conner

WIT

(408) 433-0188
Fax: (408) 433-0318 / Tech
Support (408) 433-0104
Wang International [illegible] Inc.
2073 O'TOOLE AVE.
SAN JOSE, CA 95131

SYSTEM UPGRADES DIAGNOSTICS, & SERVICE AVAILABLE CALL FOR DETAILS



HOURS
Mon-Fri: 8-5:30pm
Saturday: 10-3

Prices Subject To Change W/O Notice. 30 Day Money Back Guarantee Only For Products That Are Incompatible With Your Software.

CENTRAL
COMPUTER SYSTEMS, INC.

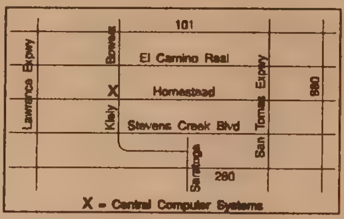
WIDE SELECTION AT LOW PRICES

Since 1986
TEL: (408) 241-0185
FAX: (408) 241-0390

820 Kiely Blvd.
(Between Homestead and Kaiser)
Santa Clara, CA 95051

Mon - Fri: 9 AM - 7:30 P.M.
Sat - Sun: 10:30 AM - 6 P.M.

OPEN 7 DAYS



- No surcharge for Visa, Discover & MasterCard
- Govt., universities and qualified firms purchase orders accepted on approved credit
- Financing plan available OAC
- Reseller & quantity pricing available
- Prices are subject to change without notice and to stock on hand
- Not responsible for typographical errors
- Call for items not listed

I BASIC SYSTEMS

ORCHID
(CAD STATION)

Super Board
4 MB, TEAC 1.2 FD
Maxtor 130 MB HD, IDE Controller, 2S 1P
Mid Tower Case w. 220W
Mitsumi 101 Keyboard
EMC 1430 monitor 14" 1024x768 .28 NI
Fahrenheit VLB 1MB VGA
MS Serial Mouse, MS DOS 6.0 & WIN 3.1

VLB 486-33, 256K cache	1415
VLB 486-50, 256K cache	1439
VLB 486-DX2-66, 256K cache	1419

MICRONICS
COMPUTERS INC.

4 MB, TEAC 1.2 FD
IDE Controller, 2S 1P
Baby AT Case w/ 200W
Mitsumi 101 Keyboard
MS Serial Mouse
MS DOS 6.0 & Windows 3.1

486-DX2-66 ISA 256K cache VLB	1415
486-33 ISA 256K cache VLB	1195
486-33 ISA 256K cache MiniBoard	1185
486-50 ISA 256K cahce MiniBoard	1295
486-DX2-66 ISA 256K cache MiniBoard	1415

NICE
(MADE IN U.S.A)

4 MB, TEAC 1.2 MB FD
IDE Controller, 2S 1P
Baby AT Case w. 200W
Mitsumi 101 Keyboard
MS DOS 6.0 & WIN 3.1
MS Serial Mouse

486-DX2-66 EISA 256K VLB	1515
486-50 EISA 256K cache VLB	1435
486-33 ISA VLB 256K cache	1075
486-DX2-66 Mini EISA 256K cache VLB	1355

IBM PS/Value Point

With : 1.44MB FD, IDE Contorller, Keyboard, Mouse, I/O ports, SVGA
Case : AT (DeskTop , 5 slots, 5 bays)
MT (MiniTower, 8 slots, 6 bays)

with OS/2 & 8MB RAM :

486 DX2-66	527MB HD, MT, VLB	3295
	340MB HD, AT, VLB	2745
	212MB HD, AT, ISA	2350
486-DX-33	340MB HD, MT, VLB	2525
	340MB HD, AT, VLB	2345
	212MB HD, AT, ISA	1765

with WIN & DOS & 4MB RAM :

486 DX2-66	527MB HD, MT, VLB	3125
	245MB HD, AT, VLB	2395
	212MB HD, AT, ISA	2125
486 DX-33	340MB HD, MT. VLB	2325
	212MB HD, AT, ISA	1645
	120MB HD, AT, VLB	1795

II HARDWARE

1. CD ROM

Sony CD Caddy	6.95
Gallant Sound Card	69
Labtec Speakers	25
Koss Maximum DR Amplified Speakers	69
Koss Amplified Mini Speakers w. Equalizer	45
Turtle Beach 16 bit MultiSound	515
CREATIVE LAB	
CD-ROM Upgrade Kit w. 4 CD Int	375
CD 531 Ext w. Ext Kit	239
Discovery CD-16 Int	469
Edutainment CD-16 Int Kit	499
Sound Blaster Pro Multimedia Kit w. 6 CD titles - Internal / External	515/459
Sound Blaster Deluxe	89
Sound Blaster Pro Deluxe	129
Sound Blaster Pro Basic	115
Sound Blaster 16 ASP	205
Video Blaster / Video Spigot for Win	315/415
Voice Blaster	75
Wave Blaster	224
Midi Kit	59
LOGITECH	
Soundman 16	135
MEDIA VISION	
Fusion Double CD 16	619
Multimedia Upgrade Kit (w. Spectrum 16)	779
Midi Mate / w. Passport Design Trax	49/89
Pro 16 Multimedia System II	869
Pro Audio Spectrum 16	159
Pro Audio Studio 16	209
Pro Movie Spectrum / Studio	285/335
MITSUMI	
CRMC-LU005S w. controller	189
NEC	
CDR-74 280ms, 300KB/s, Ext	525
CDR-84 280ms, 300KB/s, Int	439
Interface Kit for PC	89
Multimedia Upgrade Kit Int / Ext	895/995
SONY (w/o software)	
CD 31A w. controller Int	219
TEXEL	
DM-3024 265ms, Int / w. controller	355/425
DM-5024 265ms, Ext / w. controller	445/515
Driver kit for Media Vision Int / Ext	29/69
TOSHIBA	
3401B 200ms 330KB/s Int / w. controller	425/495
3401E 200ms 330KB/s Ext / w.controller	549/619
Driver kit for Media Vision Int / Ext	29/69
TRANTOR	
Mini SCSI Plus (Parallel to SCSI Adapter)	159
Music Box v.2	29
T130 SCSI Interface Kit	79

CD SOFTWARE Titles - See Sec. III

2. CASES

Baby AT w. 200W Power	69
Baby Tower w. 200W Power	69
Mid Tower w. 230W Power	79
Mid Tower w. 250W Power: Black/ White	139/129
Full Tower w. 250W Power	129
Full Tower w. 300W Power: Black/ White	199/189
Slim w. 200W (2 drive bay)	79
Hard Disk Drive External Casing	
- 1 half ht or SCSI for Mac, 40W, w. Int cable	99
- 2 half ht or 1 full ht for PC , 60W	119
- 2 half ht or 1 full ht for Mac, w. cables 60W	145
- 3 half ht or 1 full &1 half ht for PC, 60W	139
- 3 half ht or 1 full &1 half ht for Mac, w. cables	165

3. CONTROLLERS

COREL SCSI software	75
ACCULOGIC	
sIDE-4 plus (2FD & 2IDE HD, 2S & 1 P)	49
ADAPTEC	
1522K SCSI w. Kit (3MB/s)	159
1542C SCSI w. Kit (10MB/s)	249
1542C Plus w. ASW 500	315
1640 SCSI w. Kit for MCA	335
2742T SCSI EISA w. Kit	399
ASW-1410 ASPI MS-DOS Manager v3.0	69
ASW-EZ SCSI for DOS & WIN	69
ASW-310 Sy-Tos Plus (tape backup s/w)	99
AIR	
IDE w. I/O VLB	69
ALWAY TECHNOLOGY	
AL1000 Pro Corel	189
IN 2000 High Performance 16 bit SCSI	179
IN 2000 Pro Corel	219
AMI	
FastDisk cache SCSI EISA (up to 16MB)	495
FastLan Ethernet-SCSI VLB	465
DTC	
2290 IDE EISA	139
3280AS SCSI	105
7287 1:1 RLL	73
FUTURE DOMAIN SCSI Controller	
TMC 1660 for AT (H only)	119
TMC 1660 DNK for AT (H only) w. Kit	219
TMC 1680 for AT (4F& H,15MB/s)	139
TMC 1680 SVP (SCSI value pack)	175
TMC 1680 DNK for AT (4F & H) w. Kit	249
KOUWELL	
4 Floppies controller for XT,AT	33
IDE controller	27
IDE controller w. AT I/O (2S 1P 1G)	34
IDE controller w. NS16550 chips (2S 1P 1G)	59
IDE controller w. AT I/O (2S 1P) VLB	55
MICROSOLUTIONS	
CompatiCard IV: 4 Floppies controller (2 ext) 360K/720K/1.2MB/1.44MB/2.88MB FD	79
MYLEX	
DCE 376 EISA SCSI w.4MB cache	call
NCL America (w. on board Bios)	
538B IDE for AT (2HD & 2FD)	39
ORCHID	
VESA LBus IDE (2HD,2FD) w. AT I/O	79
PROMISE Drive Cache Controller	
DC 200 IDE cache up to 16MB	109
DC 2032 IDE I/O cache up to 16MB	129
DC 2040 SCSI cache up to 16MB	189
- Bios chips & CD driver	39
DC 4030VL IDE VLB cache up to 16MB	159
ULTRASTOR	
ULT 14F ISA SCSI 32K cache	199
ULT 24F SCSI EISA 64K cache	365
ULT 34F VL Bus SCSI-2 32K cache	275
WONDER SYSTEMS (USA made)	
IDE w. 4 Floppies	29
IDE w. 4 FD/ 2.88MB/ w. drivers tape , 1.0 Mbps FD speed	39
IDE w. 2HD/ 4FD/ 2S 1P/ w. drivers tape , 5IRQ for com ports, 1.0 Mbps FD speed	45
IDE w. 4FD/ 3S 2P 1G (2S16550 chips)	79
For SCSI HD, w. CD-ROM drivers	59

4. CPU

AMD386 DX-40	75
INTEL	
386 DX-25 / DX-33	75
486 DX-33 / DX-50	299/439
486 DX2-50 / DX2-66	409/519
MATH CO PROCESSOR	
CYRIX	
83D87 - 33 / 40	70/75
Cx486 DLC 33 / 40	99/129
INTEL	
387DX / 387SX	85/79
OverDrive Processor	
- 486 SX16 / SX20	395
- 486 SX25 / DX25	495
- 486 SX33 / DX33	659
Cooling Fan (heat sink)	19.50

5. DIGITIZERS

SummaSketch III 12x12, 4 or16 button	275
SummaSketch III 12x18, 4 or16 button	549
WACOM	
SD-510C 6 x 9, w. Pressure Stylus	459
SD-510C Tablet + Painter 2.0	499
SD-420E 12 x 12, w. Pressure Stylus	655
SD-420E Tablet + Painter 2.0	699

6. DRIVES

Frame for 3.5" Hard Drive and Floppy Drive	6
Removable Hard Drive Case for 3.5" HD	39
HARD DRIVES	
CONNER	
CP-30104 120MB 19ms IDE 3.5", 1" ht	165
CP30174E 170MB 18ms IDE 3.5", 1" ht	175
CP-30254H 250MB 14ms IDE 32K 1" ht	225
CP-3504 500MB IDE 1/2 ht	519
CP-30544 544MB 12ms IDE 1" ht	555
FUJITSU (5 years warranty by manufacturer)	
2624FA 520MB 12ms SCSI-1&2	679
M2694ESA 1.0GB 10ms SCSI-2 3.5" 1/2"ht	1025
M2654S 2.1GB 12ms SCSI-2 5.25" full	1795
MAXTOR	
MXT 7131A 130MB 15ms IDE 3.5"	175
MXT 7213A 213MB 15ms IDE 3.5"	219
LXT 7345A 345MB 14ms IDE 3.5"	295
MXT 7345S 345MB 15ms SCSI 1" ht	395
MXT 540SL 540MB 8.5ms SCSI-2 1"ht	795
MXT 1240S 1.2GB 8.5ms SCSI-2 3.5"	1169
PO-12 1.2GB 13ms SCSI	895
PI-17S 1.7GB 13ms SCSI	1125
Optical Drives : Rewritable 1 GB 35ms SCSI Ext Tahiti II / 1 GB Cartridge Glass	2635/199
MICROSOLUTIONS (External Hard Drive)	
40MB / 100MB (use printer port)	345/455
QUANTUM	
EIS 127AT 127MB 17ms IDE 32K cache	169
EIS 170AT 170MB 17ms IDE	189
LPS-240AT 244MB 16ms IDE 256K cahce	239
LPS-240S 244MB 16ms SCSI 256K cache	249
LPS-525S 525MB 10ms SCSI 512K cache	645
PRO-700S 700MB 10ms SCSI-2 512K	795
PRO-1225S 1.2GB 9ms SCSI 1.2M cache	1069
FLOPPY DRIVES	
MICRO SOLUTIONS (External Floppy Drive)	
1.2 / 1.44 (use printer port)	175
IOMEGA	
21MB Floptical Insider + Corel Draw 3.0	499
SYQUEST	
SQ44e 44MB Ext w. controller & cartridge	379
TEAC (Floppy Drive)	
1.2MB 5.25" / 1.44MB 3.5" w. frame	48/42
2.8MB 3.5" w. frame	85
Dual Floppy 1.2MB & 1.44MB	125

7. I/O CARDS

KOUWELL	
2S 1P 1G w. NS16550 chipset (XT, AT)	49
4 Serial ports card	69
AT I/O (2S 1P) / AT I/O (2S 1P 1G)	27/27
AT I/O (2S 2P)	33
AT I/O w. IDE (2S 1P 1G)	34
Printer card / Serial card (XT, AT)	15/15
QUICKPATH	
13 port I/O w. 4-16550UARTS (2 IDE, 4F, 4S, 2P, 1G)	125
STB 4-COM	
4 serial, 16 bit, w.16554, support COM 1-8, IRQ 2,3,4,5,10,11,12,15	109
SIIG	
2S 1P w. 16550 chipset	49
WONDER SYSTEMS (USA made)	
4S 3P (16 bit, 8IRQ, 16550 FIFO)	135
4S 3P w. software driver	159

8. KEYBOARDS

FOCUS	
FK2001 101 click	42
FK8000 111 w. calculator	45
FK9000 129 keys Programmable	65
NORTHGATE OMNI	
101S / 101NI / 102	55/69/69
Ultra T or F	95
SIIG (click)	
Suntouch Jr. 84-key Mini	45
Suntouch 101	49
OTHERS	
BTC 84-key Mini	39
KeyCat II 101 w. trackball mouse	69
Keytronic 101	37
Maxi 101 / Maxi Key 124	35/79
Mitsumi 101	30
PT505C 101	27

9. MEMORY CARDS

ACCULOGIC	
RAMpAT! up to 16MB(SIMM),16 bit, AT	99
SIMM-ply Ram 8/16 bit, 8MB max, XT, AT	145
SIMM-ply Ram 16 bit, 8MB max, PS/2-50,60	169
SIMM-ply Ram 32 bit, 8MB max, PS/2-70,80	179
INTEL	
Above Board w. 512K (special)	99

10. MEMORY CHIPS

DRAM	
1 MB x 1 - 80 ns	5.80
64K - 100 ns / 256K - 80ns	1.39
64K x 4 - 80ns / 256K x 4 - 80 ns	1.65/4.80
SIMM	
16 MB x 9 - 70 ns	call
4 MB x 9 - 60 / 70 ns	call
1 MB x 9 - 60 / 70 / 80ns (3 chips)	call
256K x 9 - 70 ns	call
1 MB x 36 - 60 / 70 ns	call
4 MB x 36 - 70 ns	call
SIMM Mac : 1 MB x 8 - 80 ns	call
SIMM Mac : 4 MB x 8 - 70 / 80 ns	call
SIPP	
1 MB x 9 - 70 ns (3 chips)	call

CENTRAL
WIDE SELECTION AT LOW PRICES

Wide Selection At Low Prices   **820 Kiely Blvd. Santa Clara, CA 95051**   **SEE MORE ON THE NEXT PAGE**

COMPUTER MEMORY (3rd Party) :	
IBM	
- PS/2 50Z/ 55SX/ 65SX/ 70	
-- 2MB / 4MB	89/159
- PS/2 80 - 111/ 311/ 121/ 321	
-- 2MB	115
IBM PS/2 80 - A21/ A31/ A6	
-- 4MB	279
COMPAQ	
- Deskpro 386N/ 386S/ 20	
-- 2MB / 4MB	105/175
- Deskpro 386 - 20e/ 20/ 25e	
-- 1MB / 4MB	95/189
- Deskpro 486M	
-- 2MB / 4MB / 8MB	109/169/309
- LTE 286 -- 1MB / 2MB	79/109
- LTE 386S/ 386-20	
-- 1MB / 4MB card	89/195
- SLT 286	
-- 1MB / 4MB	99/259
- ProLinea 386 - 25ZS/ 25S	
-- 2MB / 8MB	105/375
- ProLinea 486 - 33/ 50/ 25S	
-- 2MB / 4MB / 8MB	95/159/299
KINGSTON MEMORY for	
Apple, AST, AT&T, Compaq, IBM, NEC,Sun	call
NOTEBOOK / LAPTOP (3rd Party)	
AST EXEC 4MB	139
COMPAQ	
- Contura	
-- 2MB / 4MB / 8MB	105/165/295
- LTE 20/ 25	
-- 2MB / 4MB / 8MB	125/189/340
IBM L40SX/ N33SX	
-- 2MB / 4MB / 8MB	125/189/330
MAC PowerBook 140/ 170	
-- 2MB / 4MB	135/179
NEC UltraLite III SL25C	
-- 2MB / 4MB / 8MB	139/249/435
Packard Bell 386SX	
-- 2MB / 4MB	155/259
Panasonic 170/ 270/ 370	
-- 1MB	79
TOSHIBA	
- T2200SX 4MB / 8MB	179/299
- T3200 3MB	189
- T3200SX 2MB / 4MB	105/169
- T3100SX 2MB / 4MB	109/167
- T5100/ T13100/ T1600 2MB	115
- T8500/ T5200 2MB / 8MB	125/339
LASER PRINTER MEMORY UPGRADE	
Jet Ram (3rd Party):	
EPSON EPL 6000	
-- 2MB/ 4MB	129/199
HP	
- Deskjet 500/500C	
-- 256K	75
- Laser Jet IIP+/ III/ IIIP/ IIID	
-- 1MB / 2MB / 3MB / 4MB	79/125/169/215
- Laser Jet II/ IID	
-- 1MB / 2MB / 4MB	99/145/235
PANASONIC	
- KX-P4410/ 4430	
-- 1MB / 2MB / 4MB	95/135/215
- KX-P4420/ 4450i	
-- 1MB/ 2MB/ 4MB	99/139/209
- KX-P4450 --1MB	129
- KX-P4455 --2MB	159
QMS	
- P-S 410	
-- 1MB / 2MB / 4MB	99/139/209
- P-S 815/ 825	
-- 2MB / 4MB	159/229
TEXAS INSTRUMENTS	
- Micro Writer --1MB	69
PACIFIC DATA:	
Pacific 4 for HP IIP+/ IIIP/ III/ IIID	
-- 1MB / 2MB / 4MB	89/129/209
1-2-4 Plus for HP II/ IID	
-- 1MB / 2MB / 4MB	115/155/235
Pacific 4 SIMM for HP 4/ IIISi/ XL300	
-- 4MB / 8MB	189/359
Pacific T for Epson 6000	
-- 2MB / 4MB	199/299
ProTracer	
-- 5MB / 8MB	375/525

11. MODEMS & FAX

ASAP TF-333 Phone & Fax Auto Switching	89
National Semi TyIN 2000 Answer/Fax	175
Micc Global Pocket Fax, Tripple 96	139
Adtech Micro Systems (DOS & WIN)	
Data Fax 9624Vi, MNP5	99
Hi - Per 96/144, MNP5	199
Pocket 96/24 Fax	115
Pocket 144/144 Fax	269
E-Tech	
Ufomate Pocket Fax modem (w. Win/DOS s/w)	
- P1496MX / P9696MX	265/199
- P1414MX (Distinguish ring & Called ID)	295
EVEREX	
Evercom 9600 v.42, v.32, MNP5 Int	135
FRECOM (special)	
Fax 96 w. 1 Liner & Far Fetch Fax	115
Fax 96 & modem for DOS (special)	85
GVC	
14.4 Fax Modem Int / Ext	159/179
HAYES	
Accura 2400 Int / Ext	49/55
Accura 96 Ext + 96 Fax	239
Accura 14.4 Ext + 144 Fax	255
Optima 96 Ext + Fax 96	375
Optima 144 Ext + Fax 144	389
Pocket edition 2400 w. Smartcom EZ	129
Ultra 96 v.42, MNP5 Ext	545
Ultra 144 v.32bis, v.42, v42bis Ext	575
V-series SmartModem 9600 v.42, MNP5 Ext.	499
INTEL	
Faxability Plus/OCR for WIN trade-up	99
SatisFaxtion modem (w. FAXability s/w)	
- 300 Int 96/144 v.42 (no scan port)	245
- 350 Int 14.4 Fax / 96 modem v.42bis	319
- 400 Int 144/144 v.42, v.32bis, MNP5	395
- 400e Ext 96/14.4, 4K data buffer	399
New Fax Modem 24/96 Int	55
New Fax Modem 24V/96 v.42bis Int / Ext	119/129
New Fax Modem 96 Int / Ext	159/175
New Fax Modem 14.4 Int / Ext	179/199
MEGAHERTZ	
PCMCIA 14.4 Fax modem / w. X-Jack	445/459
PCMCIA 96/24 Fax modem w. X-Jack	299
PZ144 Pocket 14.4/14.4	415
MICROCOM	
Microporte 4232bis Fax modem	465
QX 4232bis modem	455
QX 4232bis+ modem	575
PRACTICAL PERIPHERALS	
PM14.4FX14.4 Int	219
Pocket 14.4 Fax Modem	369
Mini Tower 96/96 Ext	209
Mini Tower 14.4/14.4 Ext	235
PM2400 Mini pocket modem	(85)119
FaxMe (turn HP Laser to Fax receiving)	175
SIIG	
TeleCommunicator 10-in-1 Fax Modem	239
US ROBOTICS	
Courier 144 v.32bis, v.42, MNP5 Int.	375
Courier 144 v.32bis, v.42, MNP5 Ext	385
Courier 144 w. Fax Ext	399
Courier HST-DS 144 v.32bis, v.42, MNP Ext	725
Sportster 96 modem MNP5 Int/ Ext	149/159
Sportster 96/96 Fax Int/ Ext	159/159
Sportster 14.4/14.4 FAX MNP5 Int/ Ext	169/189
Sportster 14.4/14.4 Fax for Mac Ext	209
Shared Access Modem Sharing Kit	675
ZOLTRIX	
2400 baud modem w. MNP5 Int	39
96/24 send & rec. fax/modem w. MNP5 Int	69
96/24 fax/modem v.42, MNP5 Int	99
14.4/14.4 fax/modem Int.	159
ZOOM	
AFC Int / AFX Ext	59/79
FC9624V w. WinFax Lite Int	95
FX9624V w. WinFax Lite Ext	99
96/96 w. WinFax Lite Int/ Ext	195/209
144/144 w. WinFax Lite Int/ Ext	205/229
ZY-XEL	
U1496B 16.8 voice 14.4 Fax WINs/w Int.	345
U1496B+ upgradable to 19.2Kbps Int	455
U1496E 16.8 voice 14.4 Fax WIN, LED Ext	349
U1496E+ upgradable to 19.2Kbps Ext	459

12. MONITORS

9" VGA Mono paper white 640 x 480	135
SIIG	
9" Mono paper white	115
EMC	
EM 1412 14" Mono amber, 90-260v	95
EM 1428 14" 1024x768 .28, 90-260v.	279
EM 1430K 14" 1024 x 768 .28, NI, 90-260v	315
EM 1439G 14" 1024 x 768 .39	235
IBM PS/Value Point	
6312 14" 1024x768 .28, NI	399
6314 14" .28, NI w. Digital Pro Control	515
6319 15" Flat 1024x768 .28, NI	639
MAG (Auto Switch Power Supply)	
PMV1448 14" 1024x768 .28, NI	365
MX14S 14" 1280x1024 .26, Sony Trinitron	525
MX15F 15" Flat 1280x1024 .28, NI, MacII	535
MX17F 17" Flat 1280x1024 .26, NI, MacII	975
Mac Adapter	25
MITSUBISHI	
HL6955SETK 20" 1280x1024 .31, NI	1745
Diamond Pro(TFS 6705) 17" 1280x1024 .26 NI,Trinitron, MacII, 100-240v	1045
BNC Cable	39
NANAO (100-240v)	
F340iW 15" Full Flat screen,1024x768 .28	699
T560i 17" 1280x1024 .25, NI, MacII	1695
F550i 17" 1280x1024 .28, NI, Mac	1075
F550iW 17" 1280 x 1024 .28, NI, Mac	1125
T660i 20" 1280x1024 .31, NI, Trin., MacII	2595
F750i 21" 1280x1024 .31, NI, MacII	2095
MacII cable adapter	69
NEC (120v)	
3FGe 15" 1024x768 .28, Mac	579
4FGe 15" Flat 1024x768 .28, NI, Mac	699
5FGe 17" 1024x768 .28 NI (no Accu color)	1099
6FG 21" Flat 1280x1024 .28, Mac	2395
NEC Monitor Lens (Anti-reflection, Anti-static)	
- for 4FG / 5FG / 6FG (special)	(65)/(105)/185
FG / MacII cable adapter kit	19.50
PANASONIC (90-140v)	
C1381i 14" SVGA 1024x768 .28, Int, MacII	325
C1395 14" 1024x768 .28, NI, MacII.	435
C1991 20" 1024x768 .31, NI, MacII.	1455
POWER II	
3E 14" SVGA 1024x768 .28, Int, 90-264v	285
SAMSUNG	
CSD5577 15" Flat 1024x768 .28,NI	455
CSF7487 17" 1280x1024 .26, NI, 90/264v	899
SEIKO (90-132v)	
CM1450 14" 1024x768 .25, NI	425
CM2050 20" 1024x768 .31, NI, Mac.	1495
SONY	
1430S 14" 1024x768 .25, NI, 120v	599
1604S 17" 1024x768 .25, NI, 100-240v	965
1730 17" 1024x768 .25, NI	995
2038 20" 1280x1024 .30, NI	2295
VIEWSONIC	
4e 14" 1024x768 .28, Int,110/220v	289
5+ 14" 1024x768 .25, NI, MacII	475
5e 14" 1024x768 .28, NI, MacII	395
6e 14" 1024x768 .28, NI	315
15 15" 1280x1024 .28, NI, Mac II	545
17 17" 1280x1024 .28, NI, Mac II	1125
20 20" 1600x1280 .28, NI, Mac II	1795
Mac cable adapter	35

13. MOTHERBOARDS

386-33 w. 128K cache (no cpu)	125
386-40 w. 128K cache (no cpu)	129
486-33 128K ISA (no cpu)	135
AIR (w/o cpu)	
486-33 / DX2-66 256K, 3VLB slots	235
486-33 / DX2-66 256K EISA, 3 VLB slots	435
AMI	
Super Voyager 486-33 256K VLB	795
Super Voyager 486 DX2-66 VLB	1099
Enterprise II 486-50 EISA 128K.	1045
Enterprise III 486-33 256K VLB EISA	875
Enterprise III 486 DX2-66 VLB EISA	1095/1195
IBM	
486SL-C2-33 / 66 16K internal cache ISA v.2 w. CPU & Math Processor	345
LYNX (made in USA, w/o cpu)	
486DX - 33 / 50 / DX2-66 256K VLB	149
MICRONICS	
386SX-20 Phoenix BIOS (32MB max).	175
386-33 64K cache Gemini (32MB max).	299
486-50 256K cache EISA E2	1195
486-33 Local Bus w. 256K cache.	635
486-DX2-66 Local Bus w. 256K cache	845
486-33 256K EISA VLB	845
486-DX2-66 256K EISA VLB	1045
MiniBoard 486-33 256K cache ISA	625
MiniBoard 486-50 256K cache ISA	735
MiniBoard 486-DX2-66 256K ISA	845
16MB Memory Card	150
NICE (w/o cpu)	
486-33 / DX2-66 256K VLB	215
486-50 / DX2-66 256K Mini EISA VLB	275
486-50 / DX2-66 256K EISA VLB	435
ORCHID (w/o cpu)	
Superboard 486 (VLB for VGA & controller)	
- DX33/ DX50/ DX2-66 256K	190/215/195
QUICK-PATH	
486-50 w. 64K cache, 15ns ISA (no cpu)	255

14. MOUSE

JOYSTICK :	
Warrior 5, Quick shot	14.50
Adapter kit	16.50
THRUSTMASTER	
Flight Control System	75
Fight Control System Pro	125
Rudder Control	125
Weapons Control MK II	139
AGILER	
AGM-600E Serial 400 dpi	23.50
ATB-610 Serial Trackball	24.50
Keen	12.50
APPOINT (portable)	
MousePen Pro	49
Thumbelina	49
GENIUS	
GM-F302 (3 button)	29
KENSINGTON	
Expert serial & trackball	99
LOGITECH	
Cordless	89
Dexxa Serial	27
First Serial	37
Fotoman Digital Camera for PC & PS/2	485
Mouseman Bus / Serial	64/59
Scanman 256 / w. OCR software	179/219
Scanman color - 16.8 million colors	439
Trackman Portable / Trackman Combo	99/75
MICROSOFT	
Mouse w. WIN 3.1	149
Ball Point (portable)	119
Bus 2.0 (oem) / w. Bus Card	53/75
Bus 2.0 w. Expansion Card	89
Serial 2.0 (oem)	55
Serial 2.0 w. PS/2 port	79
Serial 2.0 w. 9 to 25 pin adapter	79
MOUSE SYSTEMS	
New Point (trackball for laptop & PC)	54
Little Mouse PC (2 button optical) serial	29
Omni (2 button) MS compatible	25
PC III Serial (optical) / Mouse Pad	59/19
PC Trackball II	55
Page Brush - color scanner	399
Pen Mate - digitizer	155
Serial Bus Card (9 IRQs).	24
The New Mouse 400CPI (3 button)	55

15. NETWORK

MAILMAN 2.0 (10-user for Novell NetWare)	199
SilverNet Software / Starter Kit	79/425
3COM	
3C503 8 bit coax / TP ethernet	179/199
3C503-16 Etherlink II 16 bit coax / TP	169/179
3C507 16 bit coax ethernet	279
3C507-TP 16 bit TP ethernet	299
3C509 Etherlink III coax / 5 pack	135/575
3C509 Etherlink III TP / 5 pack	139/585
3C509 Combo / 5 pack	155/625
3C579 Etherlink III EISA coax / TP	245/249
3C529 Etherlink III for MCA	245
3C529 TP Etherlink III for MCA	249
3C621 Link Builder 10 BT (12 port)	745
3C623 Single port BNC Module	125
TokenLink III 16/4 ISA/ MCA/ EISA	465/495/645
Link Match SNMP/NLM software	269
ADDTRON (Novell Approved)	
ET-200STS NE2000 coax compatible	65
ET-200TPS NE2000 TP compatible	75
AE-200STA NE2000 3 in 1 Combo	85
AE-200LC 8 or 16bit BNC & TP	69
Starter Kit for Novell Lite 1.1	255
Starter Kit for Lantastic AI DOS / WIN	279/299
Transceivers : ET10TB (TP<-->AUI)	59
Transceivers : ET10CB (BNC<-->AUI)	59
HUB : UTP8 (8TP + 1BNC)	249
HUB : UTP16 (16TP + 1BNC + 1AUI)	495
Pocket Adapter : BNC / TP	135/139
Arcnet :	
- Arc110HI 8bit star/bus coax	59
- Arc120TP 8bit Combo	65
- Arc220TP 16bit Combo	75
- 8 port active Hub coax / TP	135/145
Token Ring :	
- 16/4 ISA / MCA	379/399
- Mau 1 / Mau 3	295/295
ALLIED TELESIS (CentreCOM)	
AT-1500T TP / AT-1700T	79
AT-1500BT / AT-1700BT (TP+BNC)	99
ARTISOFT (Lantastic)	
AE-2 Ethernet starter Kit v5.0,10Mbps	449
AE-2 Ethernet starter Kit v5.0 WIN	509
AE-2 Ethernet adapter	(185)195
AE-2 Ethernet adapter for MCA	265
AE-3 Ethernet starter kit 4.1 + upgrade to 5.0.	485
AE-3 Ethernet adapter	225
2Mbps adapter	139
AE-1/T 8bit 10Base-T adapter	135
AE-2/T 16bit 10Base-T adapter	199
64K RAM upgrade for AE-2, AE-3 adapter	45
AI software v5.0 DOS / 6 pk / 12 pk	75/395/720
AI software v5.0 WIN / 6 pk / 12 pk	85/455/840
AI Starter Kit DOS / WIN	279/299
Articom (LAN modem sharing s/w)	225
Artiscribe System s/w	299
Central Station Connectivity Processor 5.0.	399
Ethernet software kit v5.0 DOS w. cable	79
Ethernet software kit v5.0 WIN w. cable	139
Lantastic Z (2 stations) v5.0	89
Lantastic for Netware (Network O/S)/ v5.0	99/275
Lantastic for Mac s/w Kit	339
T - Runner 8 Port Hub	320
T - Runner 12 Port Hub	520
Lantastic for TCP/IP single / 5-user	185/760
Lantastic Print Server Station Ware	69
Netware Print Server Station Ware	69
Network Eye (Remote Control Access)	129
NR 2000C (BNC only) / Starter Kit Win.	175/469
NR 2000T (RJ 45 only)	179
Peer-Hub 10Base-T concentrator	270
Peer-Hub AUI Interface Kit only	35
Remote Boot ROM for AE-2, AE-3 adapter	45
Sounding Board adapter Kit	72
StationWare (Dial Up Connection)	69
ATTACHMATE	
3270 coax adapter for AT/MCA	469
Extra! for WIN	349
Extra! Extended for DOS	349
CASTELLE	
JetPress (Network Print Server) for HP II,IID,III,IIID, coax / TP	429
LANPress (Print Server) connects up to 4 printers	
- Ethernet Thick/Thin coax (1P 3S)	475
- Ethernet Thick/Thin coax (2P 2S)	625
- Ethernet 10BaseT (1P 3S) / (2S 2P)	475/635
CC:MAIL	
cc:Mail DOS v4.0	199
cc:Mail WIN platform 2.0	335
cc:Mail 10-user / 25-user pack	239/579
cc:Mail Gateway v3.21	859
cc:Mail FAX v1.2	1350
cc:Mail Remote	199
cc:Mail Router 4.0	875

CENTRAL
CENTRAL COMPUTER SYSTEMS, INC.
WIDE SELECTION AT LOW PRICES

Wide Selection At Low Prices

820 Kiely Blvd. Santa Clara, CA 95051
Tel.: (408) 241-0185 FAX: (408) 241-0390

SEE MORE ON THE NEXT PAGE

COMPULAN	
Ethernet	
- 8 bit E100 coax / ET500TP	69
- 16 bit E200 coax / ET600TP	79
- Boot Prom (for E100/ E200/ E300/ E600)	25
- Hub 8 port TP +1BNC +1 cascading	265
- 12 port TP +1BNC +1 AUI +1 cascading	465
- Pocket adapter for coax / TP	159
Arcnet	
- 4-port Arcnet Passive Hub	19
- 8-port Coax Stackable Active Hub	149
D-LINK	
Network Cards	call
KINGSTON	
Networks Cards	call
FARALLON	
PN381 PhoneNet w.Timbuktu for WIN	259
GATEWAY COMMUNICATION	
G/Ethernet 16 coax / 32 bit (special)	69/299
IBM	
PCMCIA for Token Ring 16/4	579
PCMCIA 10B2 / 10BT	295/295
INTEL	
EtherExpress Flash LAN Adapter (combo)	155
EtherExpress 16 coax/16 TP	135/139
EtherExpress 5 pack coax/ TP	545/555
EtherExpress 16 MCA / 16 MCA TP	179/189
EtherExpress 32 EISA	439
12 port Hub EtherExpress ISA Adapter	565
12 port Hub EtherExpress EISA Adapter	645
LAN Protect 1.5 (virus protection)	685
LAN Sight 3.0 Netware Utility / Monitor	299
LANSpool s/w 386 NLM v3.5A	425
NetPort II Thin /Thick Ethernet	419
NetPort II 10BaseT	429
NetPort II Token Ring	565
NetSatisfaxtion V.2 (s/w for NOVELL)	955
RJ45 Harmonica	55
TokenExpress 16/4 ISA/ EISA/ MCA	435/655/475
NOVELL	
NE2000 plus coax ethernet / 5 pack	135/595
NE2000-TP plus TP ethernet / 5 pack	129/575
NE2000 Netware Lite starter kit	365
NE2000 Plus Combo / 5 pk	145/650
NE3200 Eagle coax EISA	675
NE3200 EXOS coax EISA	625
NTR 2000 Token Ring	435
EPROM for NE2000	35
EXOS NE10T-Hub, 8 Port (8 TP + 1 coax)	335
Print Server NPE400 (special)	(295)350
Netware Lite 1.1 + DR DOS 6.0	65
Netware Lite w. Win Utilities	75
Netware 3.11	
- 5 / 10 / 20-user	585/1345/1885
- 50 / 100 / 250-user	2650/3859/6885
Netware 4.01	
- 5 / 10 / 25-user	(845)895/1995/2895
- 50 / 100 / 250-user	3925/5495/9695
SMC (Western Digital)	
Ethercard Plus Elite 8 bit coax	115
Ethernet Plus Elite 16 coax / 16 TP	135/139
Ethernet Plus Elite 6 pack 16 coax/16 TP	675/679
3016 16bit coax / 16bit TP	145/149
Ethercard Elite 16 combo / 6 pk	159/795
Ethercard Plus/A for MCA / TP	215/219
Ethernet Elite 32 bit coax / TP	599/609
Netware Boot ROM for ethernet	34
8 Port Concentrator (8TP+1AUI)	349
12 Port Concentrator(12TP+2AUI+1BNC)	595
Token Ring 16/4 ISA / MCA	379
WD-8003 EP Ethernet Plus Elite 8bit coax	49
WD Lan-ETP 8bit TP (cable included)	39
WD Lan-10T/A for MCA (cable included)	65
XIRCOM (Pocket Adapter)	
PCMCIA Ethernet BNC / RJ45	285/289
PCMCIA Ethernet Combo	325
PE3-10B2 coax	285
PE3-10BT TP	289
PE3-10BC Combo	325
CABLES & ACCESSORIES	
Twisted pair cable, TP 4-pair, PVC, Level 3	
- 1000' / 500' / 200'	89/55/35
10 BASE-T cable, 1000' Level 3 plenum	165
RG58 cable, 1000'	109
Authen 4 port Hublet	215
Belden 8259, RG58, 1000'	165

16. POWER SUPPLIES

AMERICAN POWER CONVERSION (UPS)	
APC-400 Smart-UPS (286, 386 WS)	289
APC-600 Smart-UPS (386, 486 FS)	359
APC-900 Smart-UPS (386, 486, FS & WS)	569
APC-1250 Smart-UPS (multiple FS & WS)	769
APC-450 Back-UPS 286, ps/2, 386	215
APC-600 Back-UPS 286, 386 FS	285
APC-900 Back-UPS	395
APC PowerChute Plus for Novell	75
APC UPS Monitoring Board for NetWare	69
Power Doctor (DOS) I/F Kit for Smart-UPS	79
GENERAL	
250W for Baby AT/ Baby or Mid Tower	45
250W for AT	47
250W for Full Tower	49
300W for Full Tower	69
550W for UPS	279
1200W for UPS	659
PC POWER COOLING	
Standard 220 for desktop / full tower	85
Silencer 270	
- for slim (baby or mid tower)	149
- for AT desktop / full tower	165/165
Turbo-Cool 300	
- for slim (baby or mid tower)	149
- for desktop / full tower	175/175
Turbo-Cool 450 for desktop / full tower	325
InnerSource 2210 UPS for full tower, Int, 95-132v, 220W DC, 100W AC, =550VA Ext UPS	299
Novell Netware Interface	
- for InnerSource 2210 UPS	55
TRIPP LITE	
BC 500 Lan (UPS, 350W)	215
BC 900 Lan (UPS, 650W)	365
Iso - Bar	call
Omni 450 Lan (UPS 325W + Line Regulation)	295
Omni 600 Lan (UPS 425W + Line Regulation)	375
Omni 900 Lan (UPS 650W + Line Regulation)	545

17. PRINTERS

BROTHER	
HJ-400 Desktop Ink Jet for PC or Mac	295
HL-600 Laser 6ppm	595
CANON	
BJ-200 InkJet	349
BJ-300 desktop	349
CITIZEN	
GSX 145 (24 pin, 132 column)	355
- Color Option for GSX 145	65
- Color Option for GSX 130	45
GSX 230 Fonts & quiet	249
GSX 240 Scalable Fonts & quiet	295
PN48 notebook, 1ppm, 2lb, battery, case	309
MICROTEK	
TrueLaser MTP-306 6ppm, 2MB, 35 fonts	1195
HP (HEWLETT PACKARD LaserJet w. toner)	
Desk Jet 500 / 500C / 550C	319/399/599
Desk Jet 1200C	1375
Laser Jet IIIP	839
Laser Jet 4 / 4M /4L	1359/1865/679
Laser Jet 4Si / 4SiMX	2995/4295
Paint Jet / Paint Jet XL300	695/2295
LASER MASTER	
Utility XL1200 / XLT / XLO	4795/6495/7995
Win Printer 800 (Postscript)	1095
Win Printer XL600 11x17, 600x660PPI	2395
WinJet 800 Postscript for HP II,IID,III,IIID	475
WinJet 1200 Postscript for HP 4	775
PACIFIC DATA PRODUCTS	
ProTracer Inkjet, A to C size output, 360dpi, i960RISC processor, 512K, 45dBA	1175
- Postscript emulation card	375
- HP-GL emulation Card	315
- Sheet Feeder I / II	135/115
- Ink Cartridges	19.50
Pro Tracer HP GL Bundle w. 5MB	1745
PANASONIC	
1123 /1124i / 1624	195/259/349
- Auto Sheet Feeder for 1124 KX-P36	120
2023 24pin, quiet printer	199
2123 24 pin, 43.5dBA, color capability	239
2124 24 pin, 43.5dBA, color capability	319
2624 24 pin, quiet printer, 46.5 dBA	375
2180 9 pin, 45 dBA, color capability	159
Color upgrade Kit KX-PCK11	49
Single bin cut sheet feeder KX-PT10	95
32K Buffer dot matrix printers KX-P43	65
Serial interface card PS-13	75
4410 Laser, 512K, 5ppm	569
- Corona KX-PCR3	45
- Developer KX-PDP4	105
- Drum KX-PDM4	89
- Extra cassette KX-PKC2	45
- Fuser unit KX-PFS5	105
- Optional second cassette KX-P495	135
- Toner KX-P453	35
- Fonts Card KX-P47x (for Lasers)	95
4430 Laser, 1 MB, 5ppm	685
- Accessories same as 4410	
4420 Accessories	
- Developer KX-PDP2	95
- Drum KX-PDM2	99
- Envelope Tray KX-P431	59
- Legal Tray KX-P425	45
- Ozone Filter KX-PFT2	26
- Toner KX-P451	39
4450 Accessories same as 4450i	
4450i Laser, 11ppm	995
- Developer KX-PDP1	95
- Drum KX-PDM1	145
- Envelope Tray KX-P430	59
- Legal Tray KX-P420	45
- Ozone Filter KX-PFT1	29
- Toner KX-P450	35
4455 Postscript, 11ppm	1695
- others same as 4450i	
QMS (Adobe Postscript)	
QMS-PS 410 4ppm, 2MB, 45 Fonts	1275
- Envelope / Legal / Letter Tray	69/69/69
- Lower Cassette w. Letter Tray	149
- Toner	95
SEIKO	
Smart Label Printer Pro	245
Box of Label (2 rolls per box)	10.95
TEXAS INSTRUMENTS	
Micro Writer PS17 / PS35 5ppm	935/1195
XLPS 17 16ppm	1895
- Apple Talk Kit	99

Laser Printer Accessories:

COMPUTER PERIPHERAL	
Jet Page (for HP II)	195
HP	
Optinal 500 sheet Legal Letter A4 (Jet 4)	279
Envelope Power Feeder 75 sheet (Jet 4)	279
Legal, Letter or A4 250 sheet Tray (Jet 4)	99
Legal, Letter or A4 500 sheet Tray (Jet 4)	109
Lower Cassette w. letter tray for IIP, IIIP	149
Toner for Jet II, III	79
Toner for Jet IIP, IIP+, IIIP	66
Toner for HP4	109
Postcript for Jet 4	359
IQ ENGINEERING	
True Type Master Library	29
Super Cartridge 2 & 2LC (special)	199
Super Cart. 3 Pro+ for HP III, IIID, IIIP, IIISI	199
Desk Jet 500 / Desk Jet Plus Professional	99
PACIFIC DATA	
25 in One! (for Deskjet 500)	99
25 in One! III	
- for HP II, IID, IIP, IIP+, III, Microtek	245
Complete Font Library for HP III, IIID, IIIP	255
Font Bank for all HP Laserjet (New)	
stores soft fonts, 0.75MB / 1.5MB	205/269
Headlines Cartridge for HP II, IID, IIP	185
Paicfic Connect XI	
- For HP II, IID, III, IIID :	
-- 5 port 256K / 1MB (4S, 1P)	319/389
-- 10 port 256K / 1MB (10S)	449/519
- For HP 4, IIISI, Paint Jet XL300 :	
-- 7 port 1MB / 4MB (6S, 1P)	449/649
-- 10 port 1MB / 4MB (10S)	519/719
Pacific Page & 2MB (Postscript for HP II)	389
Pacific Page II / XL (Postcript for HP II)	719
Pacific Page 4 (Postcript for HP 4)	279
Pacific Page P.E.(HP IID,IIP,IIP+,III,IIID,IIIP)	279
Pacific Page P.E. & 2MB	405
Pacific Talk	179
Pacific Page PE XL (HP IIP, IIP+, III, IIID, IIIP)	
Postscript w. 2MB & accelerator board	719
Plotter in a Cartridge (HP II)	225
Plotter in a Cartridge P.E.	
- for HP IID, IIP, IIP+, III, IIID, IIIP	225
PELICAN All type ribbons	visit us

18. SCANNER

HP	
ScanJet II w. Kit	795
ScanJet IIC Color w. Kit	1395
TAMARACK	
ArtiScan Flatbed 24bit color 256 gray levels	
- w. Publisher 600/800/1200 dpi	845/1045/1695
- w. Pub. & OCR 600/800/1200 dpi	895/1095/1745
- w. Photostyler 600/800/1200 dpi.	995/1195/1845
- w. PhotoShop 2.5 600/800/1200	1045/1245/1895
Slide Scan Kit (transparency, slide, X-ray)	
- 600/ 800/ 1200 dpi	525/525/595
MICROTEK	
Scan Maker IIXE w. PhotoShop	1150
Hand scanners	**see Logitech in # 14**
E-TECH	
4256G 256 gray scale (w.OCR)	99(115)
4200C 256/4096 color (w.OCR)	269(289)

19. TAPE BACKUP

ARCHIVE	
Viper / Python	call
COLORADO	
Backup for Windows	45
DJ-10 (120MB) QIC-40 w. cable	145
DJ-20 (250MB) QIC-80 w. cable	179
- AB-11 Ext tape port	45
- Cable (2 Floppies & tape back up)	9
- FC-10 Controller	95
- KE-09 Ext Kit w/o controller	75
- TC-15 controller w. data compression	195
- Unix/ Xenix driver for DJ-10, 20	99
PowerTape PT-25 2GB 300KB/s Int	965
PowerTape PTE-25 Ext	1095
PowerTape PT-50 4GB 300KB/s Int	1525
PowerTape PTE-50 Ext	1655
Trakker 250MB Ext (printer port)	339
Trakker 120MB Ext (printer port)	299
HILITE (Archive s/w included)	
California 250MB, 3.5", 1" ht.	155
MICRO SOLUTION	
250MB Ext (printer port)	329
SUMMIT	
SE250 250MB w. Central Point Backup	169

20. VGA CARDS

Hauppauge Win/TV-02 (122 channel tuner)	450
- Adapter Cable / S-Video Kit	52/85
INTEL Smart Video Recorder	535
Paradise Window Accel 31X 1MB	159
Standard 24 VLB 1MB	105
Video Plus (video image grabber)	259
WinVision (video capture)	165
(All cards 1024x768 except as stated)	
CGA / MGP card (Monographic w. Printer)	29
ET4000 Tseng Lab 1MB ISA / VLB	89/119
Oak067 Super VGA 512K	52
Oak077 Super VGA 1MB	65
AMI	
FastView EISA VGA Graphics 1MB	249
FastView P9000 VLB 2MB	395
ATI	
VGA Stereo F/X 512K w. speakers	159
Wonder XL 24 1MB, Hi-color, w. mouse	145
Graphics Ultra Plus 2 (DRAM)	239
Graphics Ultra Plus 2 (DRAM) w. mouse	269
Graphics Ultra Pro 2MB w. mouse	369
Graphics Ultra Pro 2MB (VRAM) VLB	355
Graphics Ultra Pro 2MB EISA	425
DIAMOND	
Stealth 1MB (VRAM) w. Sierra Hi-color	199
Stealth 24 1MB (DRAM),16 million color	175
Stealth 24 1MB (DRAM), VLB	179
Stealth Pro (VRAM) 1MB / VLB	255/265
Stealth Pro (VRAM) 2MB / VLB	355/365
Viper VLB P9000 (VRAM) 2MB	395
MYLEX	
GLE911 1MB, 1280x1024, EISA	399
GXE020B 4MB (DRAM), 1280x1024, 2MB VRAM, TMS34020, Tiga/EISA	1039
NUMBER NINE (TI34020)	
#9 GXe 1280 x 1024, 90Hz, S3-928 chip	
- Level 10 VRAM ISA 1MB	285
- Level 11 VRAM ISA 2MB	375
- Level 11 VRAM VLB 2MB	385
- Level 12 VRAM ISA 3MB	475
- Level 12 VRAM VLB 3MB	485
GXI Lite L20 TIGA,WIN, 1280-16color	565
GXI Lite L21 CAD, WIN, 1280-16color	725
GXI Level 24 CAD, WIN, 1280x1024-256	1279
GXI TC-Level 29, 24 bit 1280x1024-265K color at 72Hz,4MB (VRAM) 1MB (DRAM)	1495
ORCHID	
Fahrenheit VA/ VLB, w.voice annotation,24 bit	199
Fahrenheit VLB, VESA 1MB 24bit	159
Fahrenheit 1280+ (DRAM) 1MB	155
Ce lcius VLB 1MB	235
Fahrenheit P9000 VLB 3MB	369
ProDesigner IIs 1MB, w. Hi-color	145

III SOFTWARE

1. CD SOFTWARE

GROUP A

Choose any 5 titles for $99 or $25 each

American Business PhoneBook 92
Atlas US President
Audubon's Birds ; Audubon's Mammal
CD Story Time
Cook Heaven
Desert Storm MPC
Discis : Kids Can Read (DOS, WIN, MAC)
- Cinderella
- Heather Hit her First Home Run
- Long Hot Day at the Ranch
- Moving Gives Me Stomach Ache
- Mud Paddle , - Paper Bag Princess
- Tale of Benjamin Bunny , - Tale of Peter Rabit
- The Scary Poems for Rotten Kids
- Thomas Swimsuit

Doctor Music (research)
Great Cities I / II
Family Education Collection
King Quest V
Mixed-up Mother Goose
Multimedia Music Training
National Parks
Pheonix Shareware
Sherlock Holmes I
Sleeping Beauty MPC
Sports Best
Stellar 7
The Animals DOS
The Adventure of Willy Beamish
Time Table of History - Science
Up All Night (shareware)
Who Kill Sam Rupert
Windows Master

GROUP B

Choose any 4 titles for $99
Choose any 3 titles for $79 or $29 each

Arthur's Teacher Trouble (oem)
Atlas Pack (World + US) - DOS
Battle Chess DOS
Business Background MPC + MAC
Chess Master 3000 MPC
Dinosaur Adventure
Edcuation Gameland (K-6 grade)
Family Choice
Jets and Props (Media clips)
Jones in the Fast Lane
LOOM
Media Music Shop
Monkey Island
PC Media (Dignostic, Reference)
QuickToons - MAC / PC
Reference Library
Sci-Fi Fantastic
Secret Weapons of the Luftwaffe
Space Adventure
Space Quest IV - Roger Wilgo (oem)
Space Shuttle
The Animals MPC

CENTRAL
CENTRAL COMPUTER SYSTEMS, INC.
WIDE SELECTION AT LOW PRICES

Wide Selection At Low Prices

820 Kiely Blvd. Santa Clara, CA 95051
Tel.: (408) 241-0185 FAX: (408) 241-0390

GROUP C

Choose any 3 titles for $89 or $35 each

Atlas Pack (world + US) - MPC
Beyond the Walls of Stars
CD Fun House (350 games) - DOS, WIN, MAC
CD Game Pack II (10 games)
Electronic Library of Art (Western Arts)
Encyclopedia of ClipArt (Power Pack)
Golden Immortal
Hound of Baskervilles
Laser Printer Companion
Macromedia ACTION! WIN
Mammals (National Geographic)
Mario is Missing + World Atlas
Master Piece Library
Mavis BeaconTeaches Typing MPC
Mayo Clinic Family Health Book
Night Owl 8 (Shareware)
PC SIG Library vol.12
Publish It 2.0 - DOS
Talking Class Tales
Talking Jungle Safari
The Best of 20th Century
The Family Doctor
Timetable of Arts & Entertainment
US Atlas w. Auto Map
Where in the World is Carmen Sandiego
Wing Commander w. Ultima 6

GROUP D

Choose any 3 for $99 or $39 each

All American Sports
Corel Artshow 3 (Book + CD) MPC
Battle Chess MPC
Bible Library (oem)
Composer Quest MPC
Dictionary of Living World MPC
Dinosaur - The Multimedia Encyclopedia
Electronic Home Library
Encyclopedia (Grolier's DOS 5.01)
Essential Home & Business Collection
Greatest Books Collection / for Win
Languages of the World for Win
Monster Media 93
Plant Doctor
Shareware Gold II
Software Jukebox
US History

SPECIAL GROUP

$19 each, Buy 5 Get 1 Free

Audio I (shareware)
Barney Bear Goes to Space
Beauty and The Beast MPC
Business Master (Shareware)
Chestnut:
- Bible & Religion
- Clip Art Goliath
- Colossal CookBook
- Death Star Arcade Battles
- Dictionary & Language
- Encyclopedia of Sound
- Shareware Overload
- Technotools (Programming)
- The Complete Book Shop
- World Traveler

Education Master (Shareware)
Kodak Photo CD Access v1.0 for Win (oem)
Graphics I (shareware)
Peter and the Wolf MPC
Rom Man Technologies : (w 3-D hologram)
- Brain Drain
- Futura
- Let's Play
- Mirror-Mirror
- Oldies but Goodies
- Variety Store

Tempra Access Photo CD (DOS, color)
US Atlas MPC
World Atlas MPC

BUNDLE

5 PACK # 1 .... ***135***
Compton's Multimedia Encyclopedia for WIN
Guinness disk of Record MPC
CD Game Pack or Reference Library
Time Table of History - Science
Wing Commander w. Ultima 6
5 PACK # 2 (Windows) ***105***
CD Deluxe Pack (4 titles) MPC 49
- Chess Master 3000
- Mavis Teaches Typing
- US Atlas 3.0
- World Atlas 3.2

Grolier's New Multimedia Encyclopedia
Wizard MPC
5 PACK # 3 (DOS) ***99***
Atlas Pack (US & World)
Reference Library
The Animals
Secret Weapons of the Luftwaffe
Software Toolworks Encyclopedia 5.0
MULTIMEDIA BUNDLE of 4 (w. 6 titles) ***99***
Microsoft BookShelf for Windows
Microsoft Works for Windows
Sherlock Holmes I
Software Library (3 titles) 49
- Authorware Star
- Macromind ACTION!
- Mathematical Tempra

OTHERS

7th Guest DOS	55
A Line in the Sand	35
Amanda Story	45
Amazing Universe PC & MAC	49
Anabel's Dream - Egypt	59
Arthur's Teacher Trouble w. box WIN	45
Battle Chess Multimedia - MPC	49
California Travel MPC	39
CD Source Book of American History	85
Composer Quest w. box MPC	59
Compton's Family Encyclopedia / w. box	45/175
Compton's Interactive Encyc. WIN	245
- upgrade	99
Compton's Multimedia Encyc. WIN oem	65
Countries of the World (oem)	(79)/269
Day of the Tentacle - Maniac Mansion	55
Dinosaur Adventure / w. box DOS	35/49
Distant Sun for Windows	79
Famous Faces MPC	49
Famous Places MPC	49
Fitness Partner - MPC	45
Global Explorer (DeLORME) MPC	99
Goldilocks and the 3 Bears (Eng/Fren/Span)	45
Grammy Awards	45
Graphics Works	45
Great Literature (1896 books) DOS & MAC	49
Great Wonders of the World DOS	55
Heart the Engine of Life (about human body)	69
History of the World (oem)	(59)/325
JAZZ of Multimedia History MPC	69
Just Grandma and Me WIN	39
King's Quest VI	49
Kodak Photo CD Access DOS / WIN	35
Learn to Speak Spanish / Eng. / French	65
MacMillan Dictionary for Children (K-12 grade)	45
Microsoft CINEMANIA MPC	55
Microsoft Dinosaur	57
Microsoft ENCARTA MPC	245
Microsoft Multimedia Beethoven 9th Symphony	55
Microsoft Multimedia Bookshelf / 1993	45/125
- upgrade to 1993	49
Microsoft Musical Instruments MPC	55
Microsoft Works MPC	45
Monarch Notes (over 2000 study guides)	49
Monster Disk II (2 shareware disk)	49
MPC Wizard (test & tune-up for Win)	15
Multimedia Animals Encyclopedia MPC	55
Multimedia Encyc. (Grolier's WIN 1.5)	55/225
Oxford English Reference Library OS/2 & DOS	99
PC Karaoke w. Microphone	75
Picture Atlas of the World	105
Pixel Garden	35
Playing w. Language (Jap/Ger/Fren/Eng/Span)	45
Prescription Drugs	45
Pro Phone Business / (7 disk) 93	49/125
Publish It for Windows	55
Q & A v 4.0	45
Return to the Moon	49
Scrabble Crossword Game (Deluxe)	39
Shareware Extravaganza - 4 CD set	45
Sherlock Holmes II	49
Space Quest IV - Roger Wilgo w. box	49
Stories of Murder, Mystery, Magic & Terror	37
Street Atlas (DeLORME)	99
Talking Schoolhouse	59
The Family Doctor w. box MPC & MAC	55
The World of US Manga	45
Think and Talk Spanish (Fren/ Italian/ Ger)	115
Timetable of Business & Politics / w. box	35/55
Voyage to the Planets 1 / 2 / 3	49
Voyage to the Stars 1/ 2	49
Wing Commander II Deluxe	59
World Vista MPC	45

2. PC SOFTWARE

ADOBE

Illustrator 4.0 WIN / w. Streamline	(359)425
PhotoShop 2.5 WIN	499
Streamline for WIN (special)	(75)125
Plus Pack for Mac	99
Type Align	59
Type Cartridge 1/ Type Cartridge 2	79
Type Manager for WIN 2.5	67
Type Set 1/2/3 for WIN	69/65/125
Type Set: Overheads & Slides	75
Type Set: Spreadsheets & Graphs	75

AUTODESK

AutoSketch 3.0 DOS (special)	(99)115
AutoSketch for WIN (special)	(155)175
Generic CADD 6.0 (special) / v6.01	(239)/285
Generic 3D	225
Graphic Impact	85
Instant Artist	39
Home Series (Home/Landscape/Kitchen/Deck)	39
Multimedia Explorer	115

BORLAND

Brief 3.1 for DOS & OS/2	95
C++ for OS/2	149
C++ Professional 3.1 for WIN	319
C++ 3.1 for WIN & Application Frameworks	485
dBase IV v2.0 for PC (new)	499
ObjectVision 2.1 / ObjectVision Pro 2.1	102/335
Office Pack for WIN (paradox + quattro pro +wordperfect)	379
- Upgrade	285
Paradox 4.0 DOS	499
Paradox for WIN (special)	125
Quattro Pro WINDOS / WIN/ 4.0 DOS	99
SuperPack (Quattro Pro & Paradox) WIN	195
Screenery (Windows wallpaper, screen saver)	25
The World of C++ (Video Training Kit)	89
Turbo C++ 3.0 for DOS / 3.1 for WIN	75/105
Turbo C++ Visual Edition for WIN (special)	79
Turbo Debugger & Tools 2.0	99
Turbo Pascal 7.0 / 1.5 for WIN	115/109

CENTRAL POINT

Anti-Virus 1.0 for DOS / 1.2 for WINDOS	15/39
PC Tools 8.0 DOS / 1.0 for WIN	115/119

INTUIT

Quicken for DOS 6.0/ WIN 2.0/ MAC 4.0	45
QuickBook	87
QuickPay (payroll)	39
QuickBook & QuickPay	110

LOTUS

Improv - 12 data dimentions (special)	99
1-2-3 4.0 for WIN (special)	(299)325
- Upgrade	99
1-2-3 Rel 3.1+ for DOS / Rel 3.4 single	385
1-2-3 for DOS upgrade	99
Ami Pro for WIN 3.01	239
- upgrade / competitive upgrade	65/99
Freelance Graphic	299
- upgrade for DOS/WIN	99
Lotus Organizer (special)	(99)
Smart Suite (123 win, Ami,Freelance, ccMail)	450

MICROGRAFX

Designer 4.0 (new)	445
- Competitive Upgrade	195
Graphics Works for WIN	(115)175
Picture Publisher 4.0 for WIN (new)	399
- Competitive Upgrade	195
Windows Draw 3.0 (oem)	(49)/69

MICROSOFT

DOS 3.3 / 4.01 / 6.0 (new)	29/19/49
- upgrade to 6.0 (special)	(49)79
ACCESS (special)	(89)325
- Upgrade to 1.1 / Competitive upgrade	15/149
Entertainment Pack for WIN 1/ 2/ 3/ 4	28
Excel 4.0 for WIN (195 in white box)	285
- upgrade	125
Flight Simulator	39
FORTRAN 5.1 Compiler	99
Fox Pro 2.5 Distribution Kit DOS / WIN	319
Fox Pro 2.5 Single DOS / WIN	315
Fox Pro upgrade to 2.5 DOS / WIN	(99)
Macro Assembler v6.1	129
Money for WIN 2.0 (special)	49(15)
Multimedia Viewer - CD	315
Office for WIN 3.0 (435 in white box)	469
PC Mail Server for DOS & WIN (10-user)	435
Power Point for WIN	299
- upgrade	125
Profit for WIN	129
Project 3.0 for WIN	419
- upgrade	145
Publisher 2.0 for WIN (new)	(95)
Sound System for WIN (w. Windows)	195
Test 2.0 for WIN (new)	315
True Type Font Pack 1/ Pack 2 (HP printers)	49
Video for WIN (CD & floppy)	129
Visual Basic 3.0 for WIN (standard)	129
Visual Basic Professional 3.0 for WIN	(249)315
- Upgrade fr standard ver to prof. ver 3.0	145
- competitive upgrade	195
Visual C++ (standard)	129
Visual C++ Professional	309
- upgrade	135
- competitive upgrade	189
Windows 3.1	65
- upgrade	45
Windows 3.1 Device Driver Development Kit	315
Windows NT 3.1	319
- Upgrade	269
Windows Printing System	135
Windows for Workgroups (w. Win 3.1)	165
- Workgroups Add on / 5-user	69/269
Windows for Workgroups Add on Starter Kit	299
- Workgroups Add on 1 User Kit	149
Word 6.0 DOS	315
- upgrade	99
Word 2.0 for Windows (195 in white box)	285
- Word for Windows upgrade	125
Works 3.0 (new)	99
Works for WIN 2.0 (special)	(99)125
- competitive upgrade (WIN)	79

QUARTERDECK

DesqView 286	59
DesqView 386 v2.4	129
DesqView / X v1.1	165
DesqView / X Network Manager (TCP/IP)	129
Qemm 386 v7.0 (new) / Upgrade	62/43
QEMM 6.0 - Game pack	85

SYMANTEC

Norton	
- Anti-Virus 2.1 (new)	79
- Backup v1.2 / v2.2	49/99
- Desktop 2.2 for WIN	105
- Commander 3.0 / 4.0	89/69
- Q & A Write (Word Processing)	49
- Speed Cache + (Speeds WIN, DOS & CD)	69
- Utilities 7.0 (special)	(99)109
ACT ! 2.1 / 2 user /1.1 for WIN	225/335/235
On Target for WIN	89
PC Anywhere 4.5 Remote and Host/ Win	115/119
PC Anywhere Lan Complete	385
Q & A	239
Time Line 5.0 / for WIN	445/445
Time Line Lan Pack	379

WORDPERFECT

PlanPerfect	(195)/255
WordPerfect 5.2 for WIN	259
- upgrade Kit from 5.1 to 5.2 for WIN	39
- upgrade to WIN 5.2 from DOS	99
- competitive trade up 5.2 for WIN	105
WordPerfect 5.2 for OS/2	279
- upgrade	105
WordPerfect 6.0 DOS (oem)	(225)269
- Upgrade to 6.0	99
WP Works	99

OTHERS

3-D Charts to go (special)	(35)
After Dark screen saver for WIN	27
ALDUS	
- Freehand 3.1 for WIN	379
- PageMaker 5.0 for WIN	525
- Persuasion 2.1 for WIN	325
- Photostyler 1.1 for WIN	495
Asymetrix Multimedia Make Your Point	45
Automap (road atlas) / for WIN	49/59
Bitstream True Type Font Pack (special)	(19)35
Body Works	39
Boot Con (solve compatibility problems)	49
By Design for WIN	59
CALERA Wordscan 1.1 / plus	182/425
Carbon Copy 6.1 Guest & Host	112
Carbon Copy 2.0 for WIN	115
C - It 3.0 (for C/C++)	99
ClarisWorks for Windows	99
Clipper 5.2	479
- upgrade / competitive upgrade	115/145
Check-It plus 3.0	85
Check-It Pro	59
Corel Draw 3.0 (special)	(135)
Corel Draw 4.0 / CD version	385/365
- Upgrade / CD version	215/199
Da VINCE eMail 2.0 , 10 user (special)	485(295)
Dash Board for WIN (HP)	45
Direct Access 5.1 / for WIN (new)	63/45
Display Faces	77
EasyDOS (menu for WIN)	25
Eclipse Fax 1.1 for WIN / w. OCR	69/85
Energizer Bunny (screen saver)	15
Fastback Plus 6.0 / 3.1 for WIN	99/107
Faxit DOS & WIN	69
Fax Master for WIN (special)	(79)
File Maker Pro 2.0 for WIN (special)	(125)259
Font Minder for WIN	55
Fractal Design Painter 2.0 WIN	255
Frame Maker 3.0 (special)	(299)485
- competitive upgrade	299
Full Motion Video MATINEE (screen saver)	29
Geoworks Pro	119
GDI : Flash Form / Wind Form	55/69
Grammatik V for DOS / WIN	57/59
Hardvard Graphics for WIN	375
Hardvard Graphics 3.0 for DOS	399
Hijaak 2.1 / 2.0 for WIN	99/89
Hollywood for WIN (special)	99
IBM DOS 5.0	39
IBM OS/2 2.1 / CD version	149/135
- upgrade / CD version	99/85
Johnny Castaway (Screen Antics)	19
LapLink V / Upgrade	105/55
LapLink V Netware	145
Mac-In-DOS for WIN	99
Mac Print	65
More Fonts	77
My Product Invoice	45
Omni Page Professional WIN 2.1	(549)599
Pacioli 2000 (special)	15
PC Swimsuit Calendar DOS / WIN	25/27
Peach Tree Accounting 2.0 for WIN	(99)115
Power Search (File Manager)	39
PrintShop Deluxe - Business	29
Procomm Plus 2.1 / 2.0 for WIN	69/95
Professional Draw / Comp. Upgrade	269/129
QA Plus 4.7 / for WIN	89
Quark X Press 3.1 for WIN	569
Right Writer 5.0 / for WIN	45
SpinRite 3.1	79
Stacker 3.1 / Upgrade	95/55
Stackker for OS/2	125
Star Trek (WIN Screen saver)	35
Super PC-Kwik	59
Superstor 2X / Pro 2X	59/79
Time Slip v.5.0	189
This is My Computer	8.50
Turbo CAD v3.0 (design & drafting)	85
UpFront for WIN (special)	(199)299
Ventura Publisher 4.1 (new)	499
- Ventura Publisher 3.0 + upgrade 4.0	299
- Ventura Publisher 4.1 Education special	199
Vista Pro	69
VISIO for WIN (shapeware)	199
Wave for WIN	75
Winfax Pro 3.0 (new)	79
WinSense (Windows Optimizer)	49
XTree Gold 2.5	89
XTree for WIN 1.5	65

Educational Software & Games (on sale) ■

BMUG,

Dvorak,

Amiga,

Reviews

& UNIX

Each month in

MICROTIMES

3470 Buskirk Avenue
Pleasant Hill, CA 94523
(510) 934-3700

continued from page 128

EXAMPLE MUD SESSION

```
$ telnet
telnet> open lambda.parc.xerox.com 8888
****************************************
   * WELCOME TO LAMBDAMOO *
****************************************
[Long title screen removed for brevity.]
connect waffle mypassword

THE COAT CLOSET
The closet is a dark, cramped space. It appears to be very crowded in here; you keep bumping into what feels like coats, boots, and other people (apparently sleeping). One useful thing that you've discovered in your bumbling about is a metal doorknob set at waist level into what might be a door.
>out
You open the closet door and leave the darkness for the living room, closing the door behind you so as not to wake the sleeping people inside.

THE LIVING ROOM
It is very bright, open, and airy here, with large plate-glass windows looking southward over the pool to the gardens beyond. On the north wall, there is a rough stonework fireplace. The east and west walls are almost completely covered with large, well-stocked bookcases. An exit in the northwest corner leads to the kitchen and, in a more northerly direction, to the entrance hall. The door into the coat closet is at the north end of the east wall, and at the south end is a sliding glass door leading out onto a wooden deck. There are two sets of couches, one clustered around the fireplace and one with a view out the windows.
You see Cockatoo, README for New MOOers, a fireplace, a newspaper, Welcome Poster, The Daily Whale, LambdaMOO Takes A New Direction, The Carpet, Helpful Person Finder, lag meter, and The Birthday Machine here. SharonStone (out on her feet), DeLiRiUm, Red_Blob, CyberTec (daydreaming), Xyphus, Azreela, Continuity, and Dottie are here.
>emote waves.
waffle waves.
Xyphus curtsies ironically to His wafflesty.
>look cockatoo
A sulphur-crested cockatoo sitting in a cage on top of the mantelpiece. Next to the cage is a container of birdseed, just out of reach of the cockatoo. On top of the cage is a bowl of soapy water and a scrubbing brush, as well as a cloth gag.
>feed cockatoo
waffle feeds the Cockatoo.
Abraxas waves.
Morpheus appears in a flash of over-the-top special effects. He vanishes again, then returns, strobing rapidly. With a final effort he drags himself into the room. You notice that a copper ring on his right hand is smouldering slightly, and he grins sheepishly at you.
>emote waves to Morph.
waffle waves to Morph.
Morpheus <— thinking of something interesting to say
>eye morph
You eye Morpheus warily.
Xyphus kneels down expertly to His Morpheusitude.

>north
THE ENTRANCE HALL
This small foyer is the hub of the currently occupied portion of the house. To the north are the double doors forming the main entrance to the house. There is a mirror at about head height on the east wall, just to the right of a corridor leading off into the bedroom area. The south wall is all rough stonework, the back of the living room fireplace; at the west end of the wall is the opening leading south into the living room and southwest into the kitchen. Finally, to the west is an open archway leading into the dining room. You see Strasbourg Clock and mirror at about head height here.

>sw
THE KITCHEN
The kitchen is of a modern design, very large and well-lit, yet still homey and comfortable. The walls are covered in beautiful natural wood cabinets and the stove is set into a large 'island' counter in the center of the room. Over the sink, along the south wall, there are windows looking out onto the pool and gardens. At the west end of the room, there is a little breakfast nook with a table and four chairs; beyond it to the west is the family room. There are doors in the north wall leading into the dining room, a sliding glass door to the south, and a doorway in the northeast corner leading out into the entrance hall.
You see cookbook, the kitchen sink, a refrigerator, Scraps of Paper, Microwave, cuisinart, dishwasher, carrot, plate of cookies, and a piece of Saran Wrap(tm) here.
>open dishwasher
It's already open.
>enter dishwasher
You enter dishwasher.
The interior of a modern dishwasher. Gleaming white plastic, vinyl covered wire racks, and a steaming smell of dish detergent surround you. You see dirty bowl here.
>close dishwasher
You close dishwasher.
>run dishwasher
The dishwasher starts. Hot water and dish detergent splatters all around and scalds you; an enormous din of clanking and gurging deafens you. You're engulfed in clouds of steam and spray. However, you get clean and sterilized.
>look
The interior of a modern dishwasher. Gleaming white plastic, vinyl covered wire racks, and a steaming smell of dish detergent surround you. You see clean bowl here.
```

Texas Instruments

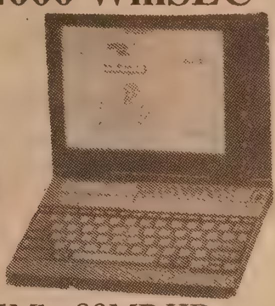
TravelMate™ 4000
Notebook Computer

New Lower Prices

TM4000 WinSx /25 w/120MB HD drive	**$1,899.00**
TM4000 WinDx /25w/120MB HD drive	**$2,059.00**
TM4000 WinDx /25 w/200MB HD drive	**Best**
TM4000 WinDx2/50 w/200MB HD drive	**Best**
TM4000 WinSx /25 Color w/120MB HD drive	**Best**
TM4000 WinDx2/40/50 8MB,200MB HD drive	**Best**

- 5.7 Pound, 3-5 Hours Battery Life.
- 10" VGA Display 640 X 480, External 1024x768
- 4MB RAM Expandable to 20MB
- MS-DOS 6.0,Winodws 3.1,TravelPoint Device.

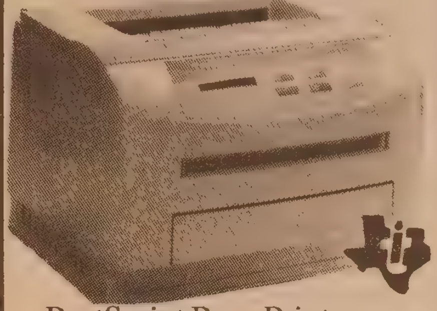
TI TM4000 WinSLC



- 80486-25Mhz 80MB HD
- 10" VGA 640 X 480
- 4MB RAM Exp. to 6MB
- DOS 6.0, Windows 3.1
- Travel Point Mouse,

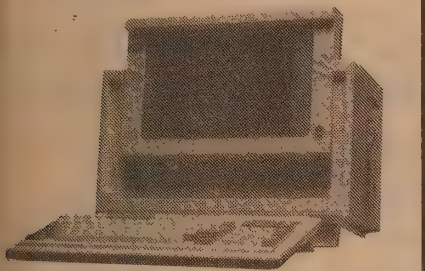
$1495

Texas Instruments Micro Page Printer



- PostScript Page Printer
- PS23 5PPM $899
- PS65 5PPM $1199
- PS35 Turbo 9PPM $1399
- AppleTalk for Mac Included

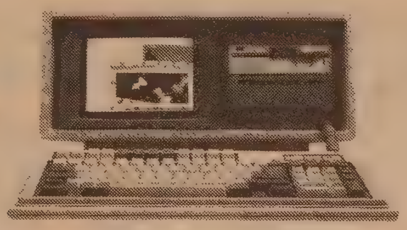
LCD / G.P. / COLOR VGA PORTABLE



- **80386-40DX**
- **1MB Exp. to 32MB**
- **2 or 3 expansion Slot**
- **1.2MB w/FHDC (1.44MB optional)**
- **VGA 640 X 480 64 Gray Scale**
- **2 Serial 1 Parallel**
- **120MB Hard Disk**
- **Also available in 486/33/50/66**

LCD	Gas plasma	color (active LCD)
$1459	**$1659**	**$3559**

386/486-33DX CRT Portable



386/486-33DX, 1MB RAM, 120MB HD, Color SVGA

$1899/$1999

486-50DX2 / 486-40DLC

- **80486-50DX2 / 80486-40DLC**
- **9" LCD VGA Display**
- **4MB RAM Exp. to 20MB RAM**
- **1.44MB FD, Built-in Co-processor.**
- **Built-in Hand Scanner Port.**
- **1 Serial, 1Parallel, VGA Ext. Port.**
- **Buit-in Fax/Modem, Mouse port.**
- **One SCSI-2 Port, Keyboard Port**
- **One year Warranty Parts & Labor**

130MB	210MB	130MB	210MB
$2499/	**$2699**	**$2159 /**	**$2359**

Toshiba Notebook

Satellite™
T1850C

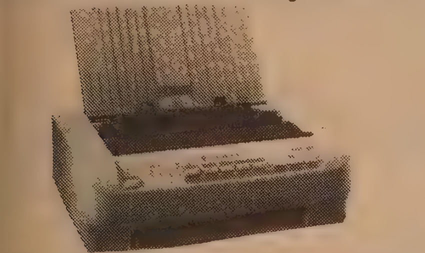
T1900/T1900C
486-20 4MB 80/120/200MB HD **Best**

T4500/T4500C
486/20SL 4mb 120/200mb hd **Best**

T4600/T4600C
486-33SL 4mb 120mb/200mb hd **Best**

Color (Active) **Call for Best Price**

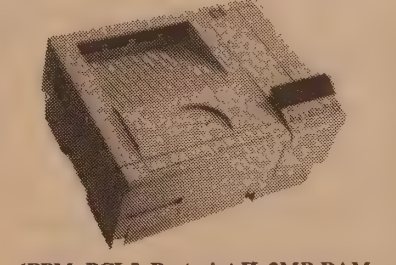
TI MicroMarc Inkjet Printer



300 cps in draft/LQ mode, 300dpi, HP PCL 3, Automatic sheet feeder, 128 Nozzle .

$339

NEC 95F Laser Printer



6PPM, PCL5, Postcript II, 2MB RAM

$899

McTEK 486-33/50DX

- **80486-33DX/ 486-50DX w/64K Cache**
- **4MB Exp. to 32MB**
- **7 Expansion , 2 Local Bus Slot**
- **1.2MB Floppy Drive**
- **2 Serial, 1Parallel**
- **101 Enhanced Keyboard**
- **120MB Hard Disk (17ms)**
- **Option : VGA card and monitor**
- **One year Warranty Parts & Labor**

$1099 / $ 1359

McTEK 486-33/50 EISA

- **80486-33/50DX w/64K Cache**
- **4MB Exp. to 32MB**
- **8 Expansion Slot**
- **1.2MB Floppy Drive**
- **2 Serial, 1Parallel**
- **101 Enhanced Keyboard**
- **120MB Hard Disk (19ms)**
- **Option : VGA card and monitor**
- **One year Warranty Parts & Labor**

$1299 / $1499

Monitors / Video Card	
Trident VGA w/512K	$49
Trident VGA w/1MB (OEM)	$79
Tseng Lab VGA w/1MB	$109
Fahrenheit 1280 w/1mb VRAM	$159
Fahrenheit 1280 VL Bus	$195
ATI Ultra Plus w/1mb	$329
ATI Ultro Pro w/2MB	$359
Diamond Spedd star w/1mb	$139
Diamond Speed star VESA	$179
Diamond Stealthpro 1MB VESA	$289
SVGA Monitor .28mm	$289
SVGA Monitor non-interlaced	$335
VIEWSONIC 6FS	$599
NEC 3FGX ..(In Stock)	$649
NEC 4FG .....(In Stock)	$769
NEC 5FG .....(In Stcok)	$1399
SONY 1403S	$619
SONY 1730S	$1199
Mitsubishi 17" 1280 X1024	$1099
Mitsubishi 20" 1280 X 1024	$1799

Printer	
HP IV L/HP III	$899
HP 4 /4M	Call
HP Desk Jet Plus 500	$359
HP Desk Writter (Mac)	$399
HP Dest Jet 550C	$699
HP Scanner IIP/IIC	$859/$1459
HP IV-SI	$3199
Epson 3250 (24pin)	$195
Epson 2250 (9 Pin)	$155
Citizen PN48	$289
Canon BJ-10ex	$299
Canon BJ200	$359
Panasonic KXP2124	$309
NEC Model 95F (PS Level II)	$1295
QMS410	$1199
IBM Inkjet Printer PS4079	$2799
IBM Inkjet Printer 4070	$429
IBM Laser Printer 4019 5PPm	$849
IBM Laser Printer 4029 6PPm	$999
IBM Laser Printer Model 10	$1199

Misc. & Tape Drive	
Logitech Mouseman	$69
Logitech Trackman	$79
Microsoft Mouse(new version)	$85
Scanman Plus/256 w/OCR	$399
Artiscanner 600dpi Color	$1029
Colorado 120mb tape backup	$169
Colorado 250mb tape backup	$199
Modem 2400 Baud Int.	$49
Modem/fax 2400/9600	$89
14400 Fax/Modem Int. / ext. (US Robotic)	$199/$235
MultiMedia Starter Kit .(Int.)	$439
MultiMedia Starter Kit .(Ext.)	$519
MultiMedia Upgrade Kit (Ext.)	$519
SounBlaster 16 ASP	$235
Video Blaster	$345
Colorado Tape Backup 250MB	$199
Pro Audiostudio 16	$225
TV tuner card	$155
80WS Speaker for CD ROM	$85

Hard Disk Drive	
40MB IDE	$179
80MB Maxtor/Conner	$215
120MB Quantum (IDE)	$229
120MB Conner (IDE)	$205
120MB Maxtor (IDE)	$209
120MB Maxtor for Mac Int.	$259
200MB Conner (IDE)	$249
245MB Maxtor (IDE)	$279
330MB Maxtor (IDE)	$449
240MB Quantum SCSI	$349
540MB Conner (IDE)	$759
Norton Anti Virus	$55
PC Anywhere	$89
Wordperfect 6.	$259
Wordperfect 6 Tradeup	$129
Microsoft Word/Excel.	$129
Microsoft Windows 3.1	$95
Microsoft Works for windows	$75
Lotus 123 for windows	$139
Pacioli 2000 (accounting)	$49

Monthly special	
AST PowerExec Notebook Computer 386/486	Best
TI TM4000 486DX2/50 COLOR (ACTIVE)	BEST
NEC UltraLite SL/25 2MB 80/120MB HD	Call
MultiMedia upgrade	$439
Toshiba CD ROM int.	$489
Teac CD ROM int.	$399
Upgrade computer	Call
Rental	Call
Repair	Call
Novell installation	Call

McTek Systems, Inc.
1521 San Pablo Ave. Berkeley, Ca 94702
Tel : (510) 525-5129

AUTHORIZED
ALDUS, AST, NEC
IBM, LOTUS, NOVELL,
TI,HERCULES,ORCHID

VISA / MASTER ACCEPTED

ALL PRICES SUBJECT TO CHANGE

Finance & Lease Available

- 90 days same as cash
- No payment for 90 days
- Low monthly payments
- Fast credit decisions
- Ask about our convenient credit plan.

USM

US MACH

US MACH Systems
USM Distributors

VISA Incorporated 1983 MasterCard

HOURS: M-F 9-6 • Sat 10-5

Price and availability subject to change.
No surcharge for credit cards.

Visit our stores
In SOUTHERN CALIFORNIA:
USM BREA (714) 255-0113
USM IRVINE (714) 252-8335

American Megatrends

FACTORY AUTHORIZED DISTRIBUTOR

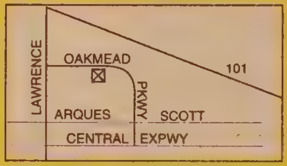
American Megatrends

101
HILLTOP BUSINESS CENTER
BLDG 11
GRANDVIEW
E. GRAND

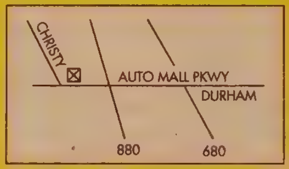
USM SAN FRANCISCO
1101 Grandview Drive So. San Francisco, CA 94080
415-952-5885 FAX: 415-266-9134

STANFORD
EL CAMINO REAL
COWPER
TASSO
WEBSTER
101
UNIVERSITY
FREE PARKING

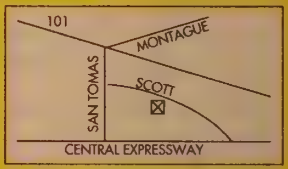
USM PALO ALTO
540 University Ave.Palo Alto, CA 94301
415-325-0651 FAX: 415-325-2459



USM SUNNYVALE
1290 Oakmead Parkway, Sunnyvale, CA 94086
408-738-8291 FAX: 408-738-8299



USM FREMONT
43104 Christy Street Fremont, CA 94538
510-623-9040 FAX: 510-623-7592



USM SANTA CLARA
3070 Scott Blvd. Santa Clara, CA 95054
408-980-0602 FAX: 408-980-0604

American Megatrends

Enterprise III 486-33/66MHz EISA-VLB w/256k cache

Pentium Ready (ZIF)

- Intel 486-66DX2 CPU
- Intel P24T Support-ZIF socket
- 4MB RAM exp. to 256MB
- 256K Static RAM cache
- TEAC 1.2MB & 1.44MB FD
- Maxtor 245MB, 15ms hard disk
- Superfast Appian 32bit VESA IDE I/O
- Cirrus Logic 16M True Color 32bit VESA SVGA
- Viewsonic 6e SVGA monitor • MS DOS 6.0
- 101 Enhanced keyboard
- Diamond full tower case w/250W PS
- 6 EISA & 2 VLB/EISA bus mastering slots
- AMIDIAG Diagnostic software & manuals
- Full burn-in • 1 year parts & labor warranty
- Serial mouse

All upgrade options available

486-33	**$2295**
486-66	**$2495**

OPTIONS:
Custom Configured Systems are US MACH's Specialty.
We guarantee the best price on all peripherals & software.
VIDEO CARDS: AMI FastView VLB, Diamond Viper, Orchid P9000, ATI Mach 32 VLB, and more
MONITORS: NEC, NANAO, MAG, Sony, Viewsonic
HARD DISKS: Maxtor, Conner, Fujitsu, Toshiba, WD
CONTROLLERS: AMI FastDisk, Ultrastor 34F, Adaptec, Promise
Please Call or Fax Your Configuration for the BEST System at the BEST Price!

American Megatrends

STATE OF THE ART TECHNOLOGY

The World Leader in AMI BIOS & Hardware Design

FREE AMIDIAG Diagnostic software/ manuals w/ every AMI System PC Magazine Editor's Choice

MS DOS 6.0 & Serial Mouse included

FREE 1 year On-site Service support for Corporate volume buyers

aAmerican Megatrends

SuperVoyager II 486-33/66MHz VESA Local Bus - 256k cache

- Intel 486-66DX2 CPU • Intel P24T Support-ZIF socket
- 4MB RAM exp. to 64MB • 256K Static RAM cache
- TEAC 1.2MB & 1.44MB floppy drives
- Conner/Maxtor 170MB hard drive
- Built-in IDE IO (2 serial 16550 UART & 1 parallel ports)
- Cirrus Logic 16M True Color 32bit VESA SVGA 1MB
- Viewsonic 6e SVGA monitor • MS DOS 6.0
- 101 Enhanced keyboard
- Diamond mid tower case
- 6 ISA & 2 VLB/ISA bus mastering slots
- AMIDIAG Diagnostic software & manuals • Full burn-in
- 1 year parts & labor warranty
- Serial mouse

16550 UARTS

All upgrade options available

486-33	**$1995**
486-66	**$2195**

American Megatrends

BABY EISA 486-33/66MHz 256K Ca.
Same configuration as system above
486-33 ...$2095
486-66.....2295

American Megatrends

MegaViews - Did You Know!!

• **In the January issue of PC Sources, the four top ranked systems all used the SuperVoyager motherboard from American Megatrends.**

"When it's all said and done, the biggest difference between motherboards and between systems comes down to chip design."

"Among the 11 reviewed systems, five chip set vendors are represented: American Megatrends, Micronics, Opti, SIS and VLSI. Of these, without a doubt, the most efficient design is American Megatrends."

MICRONICS

Authorized Distributor

USM

US MACH

FREE 1 year On-site Service support for Corporate volume buyers

MS DOS 6.0 & Serial Mouse included

MICRONICS EISA-VLB System 486-66MHz w/256k

Pentium Ready (ZIF)

- Intel 486-66DX2 CPU
- Intel P24T Support-ZIF socket
- 4MB RAM exp. to 64MB
- 256K Static RAM cache
- TEAC 1.2MB & 1.44MB floppy drives
- Maxtor 245MB, 15ms hard disk
- 32bit VESA IDE I/O
- Cirrus Logic 16M True Color 32bit VESA SVGA
- Viewsonic 6e SVGA monitor • MS DOS 6.0
- 101 Enhanced keyboard
- Diamond full tower case w/250W PS
- 6 EISA & 2 VLB/EISA bus mastering slots
- Full burn-in • 1 year parts & labor warranty
- Serial mouse

All upgrade options available

486-33	$2250
486-66	$2450

MICRONICS Motherboard Special! VCP VESA Local Bus

VCP 486-33MHz w/256k	$650
VCP 486-66MHz w/256k	850

MICRONICS VLB System VCP 486-33/66MHz w/256k

- Intel 486-66DX2 CPU
- 4MB RAM exp. to 64MB
- 256K Static RAM cache
- TEAC 1.2MB & 1.44MB floppy drives
- Conner/Maxtor 170MB hard drive
- Built-in VLB IDE IO
- Cirrus Logic 16M True Color 32bit VESA SVGA 1MB
- Viewsonic 6e SVGA monitor • MS DOS 6.0
- 101 Enhanced keyboard
- Diamond mid tower case
- 6 ISA & 2 VLB/ISA bus mastering slots
- Full burn-in • 1 year parts & labor warranty
- Serial mouse

All upgrade options available

486-33	$1850
486-66	$2050

VESA LOCAL BUS SUPER SALE!! ORCHID • Prima • Percom

Loaded with: 32bit VLB IDE • 32bit VLB 16M True Color SVGA
Maxtor 170MB or 245MB Hard Drivea

FREE Serial Mouse

CONFIGURATION:

- 486-33DX/486-66DX2
- VESA Local Bus Motherboard Percom/Prima/Orchid/Micronics/AMI
- 4MB, 70ns RAM
- 256k Static RAM Cache
- 32bit VLB IDE
- 32bit VLB True Color SVGA
- SVGA monitor 1024x768 .28dp
- 2 Floppies—1.2MB & 1.44MB
- Maxtor 170MB or 245MB HD
- 2 serial, 1 parallel, 1 game ports
- 101 Enhanced Keyboard
- Minitower or desktop case
- 1 year Parts & Labor Warranty

intel inside

	170MB	245MB
Percom 486-33 VLB	$1345	$1395
Prima 486-33 VLB	$1445	$1495
Orchid 486-33 VLB	$1545	$1595
Percom 486-66 VLB	$1545	$1595
Prima 486-66 VLB	$1645	$1695
Orchid 486-66 VLB	$1745	$1795

US MACH EMERALD ISA SPECIALS

Powerful yet Affordable!!

CONFIGURATION:

- 4MB, 70ns RAM
- Maxtor 170MB or 245MB HD
- 2 Floppies—1.2MB & 1.44MB
- SVGA Monitor 1024x768 .28 dp
- SVGA Card w/1MB
- 101 Enhanced Keyboard
- 2 Serial, 1 Parallel, 1 Game port
- Enhanced Case, Minitower
- 1 year Parts & Labor Warranty

FREE Serial Mouse

	170MB	245MB
386-40/128k AMD	$1095	$1145
486-33DX INTEL	$1295	$1345
486DX2-66INTEL	$1495	$1545

Upgrading Your System? Go US MACH! Best Product, Price, Quantity, Service!

What Is BMUG?

continued from page 148

BMUG is an educational, nonprofit, consumer advocacy group organized to share information and provide critical direction to users and developers in the computer community worldwide. It is an independent advocate, not affiliated with any manufacturer, delivering trustworthy information and useful products.

Like any growing organization, it is many different things to its fourteen thousand international members. BMUG supports many Special Interest Groups (SIGs), an 18-line Bulletin Board System (BBS), free HelpLine, software library, weekly meetings, publications, and much more. BMUG also puts out a semi-annual 350+ page book that we call our "newsletter."

Our motto continues to be: We're in the business of giving away information.

Come and join in the dialogue at the BMUG main meeting every Thursday evening, 6:30 to 9:30 (or whenever we finish), on the UC campus. BMUG West and BMUG South are monthly meetings held in San Francisco and San Jose.

The BMUG Office, 2055 Center Street (a half block from the BART station) is open to the public from 9 am to 5 pm. Please come by and say hello, meet other members, and hang out.

The BMUG Helpline provides volunteer technical assistance and telephonic handholding for our members. If your question can't be answered on the spot, we try to get you in touch with someone who can help. Of course, not every problem can have a happy ending—but we try. Improve your Macintosh education, and help others by becoming a Helpline volunteer!

BMUG has one of the most up-to-date, comprehensive software libraries around with hundreds of disks filled with the latest versions of public domain or shareware programs, and HyperCard stacks. New disks are unveiled almost every week at the Thursday general meeting. BMUG also brings you the TV-ROM™, a fantastic collection of public domain QuickTime videos.

Our new graphic user interface FirstClass 18-line BBS offers many of the latest versions of files in our software library as well as news, private mail, rumors, etc. With our multiline capability, you can have access to BMUG almost twenty-four hours a day. It's easy to use, fun, and a great resource.

BMUG can be found on most electronic services. BMUG can also be reached through the Internet international network through UG0001@applelink.apple.com.

To get some further information about BMUG please write to: BMUG, 1442A Walnut Street, #62, Berkeley, CA 94709. If you prefer to phone our business office call (510)549-BMUG, or fax (510)849-9026.

FAX / MODEM **Direct from Wholesaler**

Proven Reliability
5 Year Warranty

For WINDOWS: SEND/RECEIVE FAX MODEM + WINFAX & DOS Softwares

☆ SPECIAL ☆	MODEL 9624HWIN (Internal) with WINFAX FAX S/R 9600/9600bps, MODEM 2400bps MNP 5	Retail $199	$58
INTERNAL	MODEL 2400H MODEM SPEED 2400bps MNP 5 V.21,V.22,V.22bis,V.23, Hayes Modem Compatible, DOS softwares	Retail $79	$25
	MODEL 9624SH FAX Send 9600bps MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $89	$29
	MODEL 9648AH FAX Send / Receive 9600bps/4800bps MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $129	$45
	MODEL 9624H FAX Send / Receive 9600bps/9600bps MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $149	$49
	MODEL 1414VH FAX Send / Receive 14400bps/14400bps MODEM speed 14400bps MNP 5 V.32/V.42 GIII FAX Hayes DOS softwares	Retail $399	$149
EXTERNAL	MODEL 9624E FAX Send / Receive 9600bps/9600bps MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $189	$72
	MODEL 9624VQE FAX Send / Receive 9600bps/9600bps MODEM speed 2400bps MNP 5 V.32/V.42 GIII FAX Hayes DOS softwares	Retail $189	$79
	MODEL 1414VE FAX Send / Receive 14400bps/14400bps MODEM speed 14400bps MNP 5 V.32/V.42bis GIII FAX Hayes DOS softwares	Retail $449	$179
POCKET SIZE	MODEL 9624SP FAX Send 9600bps (Pocket/External) MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $199	$59
	MODEL 9624P FAX Send / Receive 9600bps/9600bps MODEM speed 2400bps MNP 5 GIII FAX, Hayes Comp. DOS softwares	Retail $199	$79
	MODEL 1414VQP FAX Send / Receive 14400bps/14400bps MODEM speed 14400bps MNP 5 V.32/V.42bis GIII FAX Hayes DOS softwares	Retail $499	$199

☆ *WINFAX($10)* or *SuperFax($5)* for Windows w/Manual (Purchase with above product)

☆ **Model 3000B** Phone/Fax/Modem/Answering **Auto Switch Device** uses for a Single phone line $59

YOKOHAMA Telecom Corp.
4095-M E. La Palma Ave.
Anaheim, CA 92807
Tel : 714 - 630 - 4061
Fax Order : 714 - 630 - 5069

ORDER CALL: 1-800-YOKOHAMA

Call for Dealer Q'ty Discount

MON. - FRI. : 9:00AM TO 6:00PM
SAT. : 9:00AM TO 3:00PM

Price, availability and specifications subject to change

ORDER FORM:

MODEL NO.	x Quantity	=	Amount
	x	=	
	x	=	
	x	=	
	SUB-TOTAL	=	
CA Resident add Tax (x 0.0775)		=	
Shipping & Handling Charge		=	$4.00
GRAND TOTAL =			

Send to: YOKOHAMA Telecom Corp.
P.O. Box 626 Atwood, CA 92601

Your Name:
Address
City State Zip
Tel:
☐VISA ☐MC OR INCLUDE CHECK $
Card No. Exp:
Sign.

EXPERIENCE + QUALITY = WEDGE TECHNOLOGY

LOCAL BUS
INTEL
486DX-33
486DX2-66

ShowBOOK IV: Mainframe Power w/ Expandability of VESA Desktop

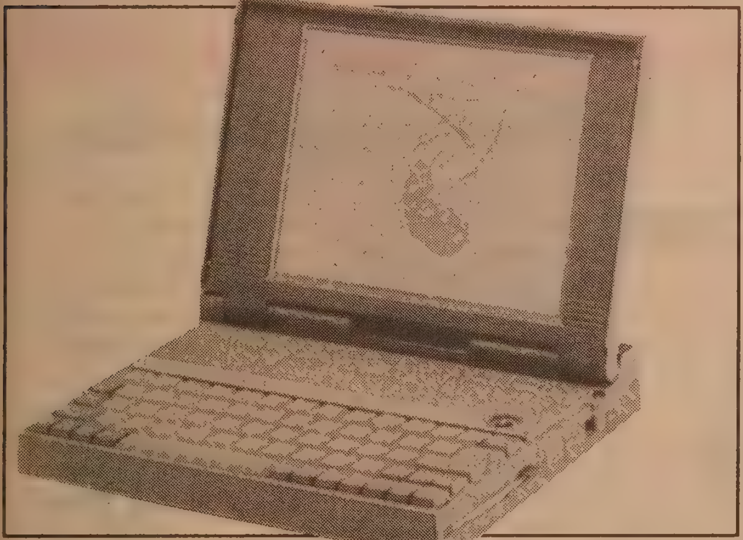
- **ShowBOOK IV with Intel 80486-33DX up to Intel 80486-66DX2**
- **4MB, expandable to 20MB**
- **LOCAL BUS VIDEO**
- **128KB External Cache (Optional)**
- **Built-in 16mm Trackball**
- **Simultaneous Internal & External Display and Keyboard**
- **Type III PCMCIA Slots**
- 80/120/200/340MB HDD and 1.44MB 3.5" FDD
- Serial, Parallel, External CRT and Keymouse port
- **3 YEARS LABOR and 1 YEAR PARTS WARRANTY**
- MULTIMEDIA DOCKING STATION (Optional)
  - **Two 32-bit VESA LOCAL BUS Slots and Four 16-bit ISA Slots**
  - One 5.25" and One 3.5" Drive Bay
  - **Built-in SCSI Controller**, 2 Serial, 1 Parallel, 1 Keyboard, 1 Video port

Intel 486-33DX
4MB, 80HDD
ONLY
$1,899.00

ShowBIZ: THE 1ST NOTEBOOK WITH A 6 FOOT SCREEN

X Terminal Market

- **Detachable VGA display for use w/OVERHEAD PROJECTOR**
- **Removable 80/120/210MB HDD** and 1.44MB 3.5" FDD
- Intel 80386SL-25MHz with 64K Cache and 387SX/SL Socket
- External VGA adapter allows for two simultaneous displays
- Built-in Trackball, Serial, Parallel, and external Keyboard Ports
- 4MB RAM expandable to 8MB
- 2 Ni-CAD batteries, Automobile Adapter, Deluxe Carrying Bag
- **ONLY 5.7 Lbs (Battery Included)**
- **Color Active Matrix Screen and Intel 486 version available**
- Suspend/Resume Key to prolong battery life
- Internal 9600/2400 Send and Receive Fax/Modem (Optional)
- **Ideal for Training, Sales, Lectures, Presentation, or any occassion you would like to impress your audience**



ShowBOOK: THE NOTEBOOK THAT KEEPS GOING & GOING...

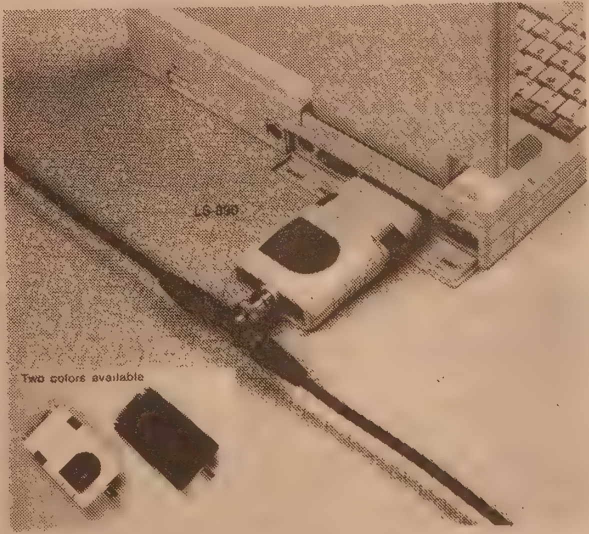
- **DUAL BATTERY Compartment**
- **4-6 Hours battery life per charge**
- **REPLACE BATTERY WITHOUT HAVING TO TURN OFF THE SYSTEM**
- 80486SLC-33MHz Notebook
- **Best design Trackball with 2 buttons**
- **Graphical LCD System Indicator**
- 2MB expandable to 8MB
- 80/120/200MB HDD and 1.44MB 3.5" FDD
- Serial, Parallel, External CRT and K/B port
- **AUTOMOBILE POWER CONVERTER**
- **ONLY 3.7 Lbs, with 2 batteries only 5.5 Lbs**
- Suspend/Resume Key to prolong battery life
- Internal 9600/2400 Fax/Modem (Optional)
- Color Version also available
- **3 YEARS LABOR and 1 YEAR PARTS WARRANTY**

Memory prices doubled, yet WEDGE 486-33MHz, 2MB, 80HDD is still
$1,299.00

Extra Strength POCKET LAN Prescribed for Networking Headaches!

- **TWO-IN-ONE-DESIGN:** Provides line interfaces for both 10Base-2 and 10Base-T environment
- **ULTRA COMPACT SIZE:** The best space saving solution for notebook, laptop, and PC users
- **DIAGNOSTIC LEDS:** For power on and data transmit/receive indication
- **PRE-CONFIGURED DRIVERS:** For Novell IPX, DOS, ODI, TCP/IP for Unix, SUN PC/NFS and NDIS
- **AUTO-DETECTION SYSTEM:** No jumpers or configuration switches to be set.
- **TOPOLOGY:** Distributed Bus and Star
- **EASY INSTALLATION**
- **3 YEARS LABOR and 1 YEAR PARTS WARRANTY**

ONLY
$169



WEDGE TECHNOLOGY, INC. SINCE 1981
Your Partner for Success
1657 McCANDLESS DRIVE, MILPITAS, CA 95035
Hours: M-F: 8:00AM-8:00PM/Sat: 10:00AM-4:00PM

VISA
MasterCard

SALES: (408)263-9888
TECH: (408)263-0225
FAX: (408)263-9886

Corporate PO's Welcome/Reseller Inquires Welcome

NOWNet *Networking*

Finally, a Peer-to-peer Network that MAKES SENSE!!

The Easiest, Fastest and Most Economical Way to Network Your Office

Introducing Microsoft Windows for Workgroups with NOWNet Packages

NOWNet Package I

The Economical Pack

Workstations:
386DX/40MHz, 128K Cache, 4MB RAM, 80MB IDE HD, 1.2 or 1.44MB FD, SVGA Monitor, SVGA Video Card, Mini-Tower case, 101 Keyboard, IDE Controller, Logitech Mouse, Network Kit

$1195 each

Loaded Station:
486DX/33MHz, 256K Cache, 8MB RAM, 130MB IDE HD, 1.2 and 1.44MB FD, 14" SVGA 28dpi Monitor, SVGA Video Card w/1MB, Mid-Tower case, 101 Keyboard, IDE Controller, Logitech Mouse, 120 Tape Backup, 96/24 Fax/Modem, Mitsumi CD-ROM Drive, Network Kit

$2295 each

NOWNet Package II

The Performance Pack

Workstations:
486DX/33MHz, 256K Cache, 8MB RAM, 212MB IDE HD, 1.2 and 1.44MB FD, 14" SVGA 28dpi Monitor, Local Bus Video w/1MB, Mini-Tower case, 101 Keyboard, IDE Controller, Logitech Mouse, Network Kit

$1895 each

Loaded Station:
486DX2/66MHz, 256K Cache, 16MB RAM, 340MB IDE HD, 1.2 and 1.44MB FD, 15" SVGA 28dpi NI Monitor, Stealth 24 VLB Video, Full-Tower case, 250W PS, 101 Keyboard, VLB IDE Controller, Logitech Mouse, 250 Tape Backup, 14.4K Fax/Modem, Toshiba 3401B CD-ROM Drive, Network Kit

$3696

The Windows For WorkGroups Advantages:

- Most economical network available
- No need for a dedicated file server
- No need for network administrator
- Option of Daisy chaining or Hub setup
- Easy sharing of peripherals and devices
- Built-in E-Mail and scheduling features
- GUI (Graphical User Interface) file sharing
- OLE (Object Linking and Embeding) Capabilities
- Easy connection to Apple, Novell and DOS machines
- Extremely easy to install and operate

Network Kit Includes:
MS Windows For WorkGroups 3.1
MS DOS 6.0 w/Manuals
MS Windows 3.1 w/Manuals
MS E-Mail and MS-Scheduler+
16-Bit network card TP/Coax
Diskettes, cables and manuals
Complete Installation and set-up

MICROSOFT® WINDOWS™
For Work Groups

NOWMedia *Multimedia & Entertainment*

FamilyMate

The Ultimate Home PC

- Intel i80486DX/33Mhz
- 4MB RAM, 256K Cache
- 170MB IDE Hard Drive 13ms
- 1.2 and 1.44MB Floppy Drives
- 14" SVGA .28dp Monitor
- Local Bus SVGA Card 1MB
- Medium-tower Case 230W PS
- 101 Enhanced Keyboard
- Logitech Mouse
- Sound Commander Gold Card
- Sony CD-ROM Drive
- Two Stereo Dynamic Speakers
- Dynamic Microphone
- 5 CD-ROM Titles: *Encyclopedia by Toolworks, Nautilus Best of MIDI, Macromind Action, Multimedia World Atlas and Sherlock Holmes*

$1795

MPC™
Multimedia PC

Local Bus - MultiMedia

Pentium OverDrive Ready

PowerMedia

- Intel i80486DX2/66Mhz
- 8MB RAM, 256K Cache
- 340MB IDE Hard Drive 13ms
- 1.2 and 1.44MB Floppy Drives
- 15" ADI 4G .28dp Flat Monitor
- Stealth 24 VLB Card 1MB
- Local Bus IDE Controller
- Medium-tower Case 230W PS
- 101 Enhanced Keyboard
- Logitech Mouse
- Sound Blaster 16 ASP Card
- Toshiba 3401B 200ms CD-ROM
- Labtec 550 Amplified Speakers
- Dynamic Microphone
- 5 CD-ROM Titles: *Compton's Encyclopedia, Microsoft Bookshelf, MicroSoft Works, Multimedia World Atlas and Animals*

$2995

NOWServ *Special Services to VAR's*

Introducing...
NOW ELECTRONICS'...NOWSERV
The Purchasing Source for VARS and Resellers!

If you're a VAR or Reseller and you're looking for a supplier who understands value and service, look no further than NOW Electronics. There's no better way to attract so many loyal, repeat customers.

Here's what you get when you join NOWSERV...

- *A dedicated sales represntive.*
- *Prompt delivery of systems & components; often hours after ordering.*
- *Immediate exchange on RMA items; no questions asked.*
- *Flexible payment and special financing options available.**

** Subject to prior credit approval*

Quotes from our VAR customers

"Integrity, professional courtesy, up-to-date R&D, competitive pricing, made dealing with NOW a smooth experience. Finally a VAR's best friend."

Ron Sen - SF VAR

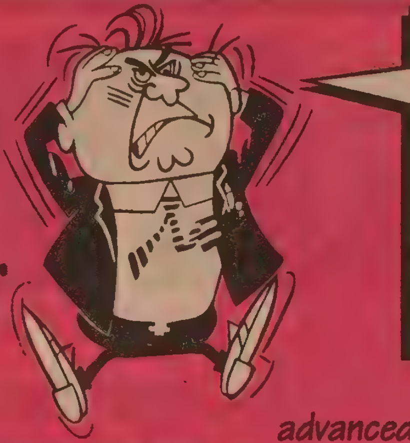
"If you are looking for a company that offers a high level of service, operates with integrity, has reliable products along with excellent technical support, then give NOW a calll.

Douglas Olds - ACE Computer Consultant

" NOW - The best Quality, reliability, and after sale support I've experienced"
"NOW- A pleasant buying experience from order to delivery"
"NOW - A company that understands my markeplace and supports me completely"

Tony Olszewski - Office Products Today

Are You Suffering From Computer Anxiety?



- Should I buy ISA, EISA or VESA?
- Which is better... IDE, SCSI or an ESDI Hard Drive?
- Has the true 50 MHz VESA Local Bus been standardized yet? Is it safe to buy?
- What the heck is "Bus Mastering"? Does my system support it?
- Do all hard drives support the Local Bus?
- Is the P24T OverDrive the same as the Pentium?

WHO CAN HELP ???

Call NOW before you get to an advanced stage where there is no going back.

DID YOU KNOW THAT...

- VESA (VL-BUS) is faster than ISA or EISA.
- True 50Mhz on VESA is NOT recommended.
- A buffered VESA slot will prevent CPU from overloading and guarantees reliable operation.
- A system can not be called "Local Bus" unless the video card and/or the HD controller are inserted on a local bus slot with 32-bit interface.

FREE NAV
with your next system from NOW.
You'll get a
$50 value
Norton-Anti Virus absolutely
FREE.

Genesis

A well built system for those who are seeking brand-name quality components and the latest in technology at a low price. Ideal for home use, office work and Multimedia.

Micronics or AMI SuperVoyager
ISA and VL-BUS
Intel 66MHz 486DX2 CPU

American Megatrends

Pentium OverDrive Ready

- 66MHz Intel 486DX2 CPU
- 256KB Fast Static Cache
- 8MB RAM exp. to 64MB
- 245MB Quantum ProDrive 256K Cache 11ms
- 32-bit Local Bus IDE Interface
- 32-bit ATI Ultra XLR VLB 1MB VRAM (2x faster than Pro)
- NEC 3FGe 15" (or MAG 15" MX15F) Monitor
- 1.2 and 1.44 High Density Floppy Drives
- Full-Tower Case 250W PS Dual Fans
- 101 Keytronic Keyboard
- 2 VL-Bus and 6 ISA Slots
- Pentium OverDrive ZIF Socket
- CPU Heat Sink and Fan

$2695

Warrior

If you are looking for reliability, speed and performance, then you are in with a Warrior. Built to meet the needs of CAD designers, Software developers and Desktop Publishers.

Micronics or AMI Enterprise III
EISA • VL-BUS • SCSI-2
Intel 66MHz 486DX2 CPU

American Megatrends

Pentium OverDrive Ready

- 66MHz Intel 486DX2 CPU
- 256KB Fast Static Cache
- 16MB RAM up to 256MB (on AMI)
- 880MB Toshiba SCSI-2 512K Cache 12ms Hard Drive
- 32-bit Ultrastor 34F VLB SCSI-2 Controller
- 32-bit Diamond Viper VLB 2MB VRAM Video Card
- NEC 3FGe 15" (or MAG 15" MX15F) Monitor
- TEAC Combo 1.2 and 1.44 Floppy Drive
- Full-Tower Case 300W PS Dual Fans
- 101 Keytronic Keyboard
- 2 VL-Bus and 6-EISA Slots
- Pentium OverDrive ZIF Socket
- CPU Heat Sink and Fan

$4395

Crusader

The Crusader is an EISA-based machine made for the EISA "diehards". When your application does not need or "like" the VL-Bus, the Crusader is your savior. Ideal as a File Server, Unix/Windows NT and NextStep Workstation.

Micronics EISA E3
EISA • SCSI-2 • 512K Cache
Intel 66MHz 486DX2 CPU

Pentium OverDrive Ready

- Micronics E3 EISA Mother Board
- 66MHz Intel 486DX2 CPU
- 512K Fast Static Cache
- 16MB RAM exp. to 64MB
- 1.2GB SCSI-2 Fujitsu 256K Cache 10ms Hard Drive
- Adaptec 1742BK EISA SCSI-2 Controller
- ATI Ultra Pro 2MB VRAM EISA Video
- 15" MicroScan ADI 4G NI Flat Monitor
- 1.2 and 1.44 High Density Floppy Drives
- Full-Tower Case with 300W PS Dual Fans with side door for easy access
- 101 Keytronic Keyboard
- Pentium OverDrive ZIF Socket
- CPU Fan and Heat Sink

$4495

ORCHID Genoa SYSTEMS CORPORATION DIAMOND ASUS

- VESA Local Bus Motherboard
- 66MHz Intel 486DX2 CPU
- 256K 20ns Cache
- 8MB RAM up to 64MB
- 250MB Western Digital Hard Drive 13ms
- 1.2 and 1.44MB TEAC Floppy Drives
- 15" ADI 4G .28dp NI Flat Monitor
- 32-bit Stealth 24 VLB 1MB VRAM or Orchid Fah. 1280 VLB 1MB
- 32-bit IDE VLB Controller
- Medium Tower Case 230W PS
- 101 Keytronic Keyboard
- 2 Ser, 1 Par and 1 Game Ports
- Built-in Math Co-processor
- CPU Heat Sink and Fan

MOTHERBOARD OPTIONS:

Diamond FastBus VLB	$2195
ORCHID Superboard VLB	$2150
ASUS Pentium Ready	$2095
Genoa TurboExpress VLB	$2075

ORCHID Genoa SYSTEMS CORPORATION DIAMOND ASUS

- VESA Local Bus Motherboard
- 33MHz Intel 486DX CPU
- 64K 20ns Cache
- 4MB RAM up to 64MB
- 170MB Western Digital HD 12ms
- 1.2 and 1.44MB TEAC Floppy Drives
- 14" AcerView 34T .28dp NI Monitor
- 32-bit Genoa 8500 VLB or ET4000 VLBController
- 32-bit IDE VLB Controller
- Mini Tower Case 200W PS
- 101 Enhanced Keyboard
- 2 Ser, 1 Par and 1 Game Ports
- Built-in Math Co-processor

MOTHERBOARD OPTIONS:

Diamond FastBus VLB	$1495
ORCHID Superboard VLB	$1450
ASUS Pentium Ready	$1395
Genoa TurboExpress VLB	$1375

Intel 486DX2/66MHz CPU	$1495
Intel 486DX/50MHz CPU	$1395
Intel 486DX2/50MHz CPU	$1330
Intel 486DX/33MHz CPU	$1175

- ISA Motherboard and Intel CPU
- 64K 20ns Cache
- 4MB RAM up to 32MB
- 130MB Maxtor IDE HD 15ms
- 1.2 and 1.44MB TEAC Floppy Drives
- 14" SVGA .28dp Monitor
- SVGA 1MB RAM Video Card
- Mini Tower Case 200W PS
- 101 Enhanced Keyboard
- 2HD/2FD IDE Controller
- 2 Ser, 1 Par and 1 Game Ports
- Built-in Math Co-processor

UPGRADES:

Add $25 for 256K Cache
Add $CALL for 8MB RAM
Add $50 for 210MB HD
Add $45 for NI Monitor

Intel 486SX/33MHz CPU	$949
Intel 486SX/25MHz CPU	$879
Cyrix 486DLC/40MHz CPU	$899
Cyrix 486DLC/33MHz CPU	$849
AMD 386DX/40MHz CPU	$779
Intel 386DX/33MHz CPU	$779

- ISA Motherboard and CPU
- 64K Fast Cache
- 4MB RAM up to 32MB
- 80MB IDE HD 17ms
- 1.2 or 1.44MB TEAC Floppy Drives
- 14" SVGA Color Monitor
- SVGA 512KB RAM Video Card
- Mini Tower Case 200W PS
- 101 Enhanced Keyboard
- 2HD/2FD IDE Controller
- 2 Ser, 1 Par and 1 Game Ports

UPGRADES:

Add $50 for 130MB HD
Add $45 for a 2nd Floppy
Add $20 for 1MB Video

OPTIONS & UPGRADES

rd Drives

05MB	Call
30MB	Call
70MB	Call
10MB	Call
50MB	Call
40MB	Call
35MB	Call
35MB Plus	Call

Monitor/Video

NEC, Sony, Nanao, MAG, ViewSonic, ATI, Diamond, Genova, Orchid, etc.	Call

Fax/Modem

• 2400 Modem	Call
• 96/24 Fax/Modem	Call
• 96/96 Fax/Modem	Call
• 14.4/14.4 Fax Modem	Call
• Intel Satisfaction 400	Call
• National Fax/Modem/ Voice/ Mail	Call

Storage Devices

• 120/250MB Tape Back-up	Call
• 120/250MB Tracker Parallel	Call
• 21MB Floptical Drive w/Kit	Call
• 2.88MB Floppy Drive	Call

Internal CD-ROM

• Mitsumi 350ms w/Card	Call
• SONY 31A 490ms w/Card	Call
• SONY 541 380ms w/Card	Call
• Texel 3024 265ms	Call
• NEC CDR-84 280ms	Call
• Toshiba XM-3401B 200ms	Call

MultiMedia

• MediaVision Fusion CD 16 Kit	Call
• Creative Labs Upgrade Kit	Call
• Pro AudioSpectrum 16bit	Call
• Sound Blaster Pro Basic	Call
• Sound Blaster Pro 16bit	Call
• Video Blaster (TV in PC)	Call

Pointing Devices

• 3-button Mouse	Call
• Logitech 1st Mouse	Call
• Logitech Mouseman	Call
• Logitech Trackman	Call
• SummaSketch III 4 Button	Call
• MS DOS 5.0	Call
• Windows 3.1	Call

GUARANTEES:

1. 1 Year Parts & Lifetime Labor
2. 72 Hour Burn-in and Quality Check
3. Original Brand New Parts and Manuals
4. 100% IBM, NOVELL Compatibility
5. Life-time Technical Support and Advice
6. Prompt Courteous Sales & Tech Staff

PARTIAL LIST OF OUR CORPORATE AND GOV'T. CUSTOMERS:

Federal Govt, Lockheed Space and Missile, State of California, Federal Express, Metropolitan Insurance, Adaptec, Cal-Trans, Nat'l Semiconductors, AT&T, UC Berkeley, Lawrence Livermore Labs, Continuum Lasers,...and many more.
(Contacts and Phone #'s are available upon request).

CALL FOR PRINTERS & SOFTWARE

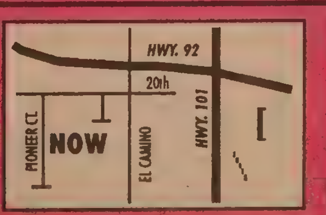
NOW
ELECTRONICS, INC.

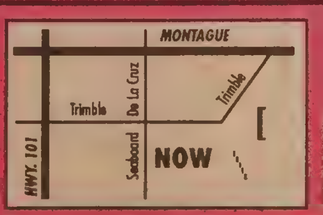
San Mateo

TEL: 415/345-4577

Hours:
M-F 9-6:00
Sat. 11-6

FAX: 415/345-4576
2031 Pioneer Court Ste. 2
San Mateo, CA 94403





San Jose

TEL: 408/894-7060

FAX: 408/894-7062
2526 Seaboard Ave.
San Jose, CA 95131

Hours:
M-Th. 9-7:00
Fri. 9-6
Sat. 11-6

*Cash Prices *Prices are subject to change without notice. Not responsible for typographical errors.*

BUY DIRECT FROM FACTORY & $AVE

Pixel USA Computer (408) 929-7218

MOTHERBOARD w/CPU

ISA Bus

386SX-40MHz w/ 16Kb	$98
386DX-40MHz w/ 128Kb	$118
486SX-25MHz w/ 128Kb	$168
486DLC-33MHz w/ 128Kb	$138
486DLC-40MHz w/ 128Kb	$178
486DX-33MHz w/ 128Kb	$358
486DX-50MHz w/ 128Kb	$508
486DX2-66MHz w/ 128Kb	$565

VESA Local Bus

Opti 386DX-40MHz w/ 128Kb	$148
486SX-25MHz w/ 128Kb	$178
486SX-33MHz w/ 128Kb	$248
Opti 486DLC-33MHz w/ 128Kb	$178
Opti 486DLC-40MHz w/ 128Kb	$218
486DX-33MHz w/ 128Kb	$363
486DX2-50MHz w/ 128Kb	$448
486DX-50MHz w/ 128Kb	$518
486DX2-66MHz w/ 128Kb	$573
IBM 486SLC2-50MHz w/ 64Kb	$288
IBM 486DLC2-66MHz w/ 64Kb	$343
SIS 486SX-25MHz w/ 256Kb (ZIF Socket)	$228
SIS 486SX-33MHz w/ 256Kb (ZIF Socket)	$298
SIS 486DX-33MHz w/ 256Kb (ZIF Socket)	$438
SIS 486DX2-50MHz w/ 256Kb (ZIF Socket)	$528
SIS 486DX-50MHz w/ 256Kb (ZIF Socket)	$578
SIS 486DX2-66MHz w/ 256Kb (ZIF Socket)	$643
Orchid Super-Board 486DX-33MHz w/ 256Kb	$443
Orchid Super-Board 486DX2-50MHz w/ 256Kb	$513
Orchid Super-Board 486DX2-66MHz w/ 256Kb	$653
AMI Super Voyager 486DX-33MHz w/ 256Kb	$688
AMI Super Voyager 486DX-50MHz w/ 256Kb	$828
AMI Super Voyager 486DX2-66MHz w/ 256Kb	$898
AMI Enterprise III EISA VLB 486DX-33 w/ 256Kb	$928
AMI Enterprise III EISA VLB 486DX-50 w/ 256Kb	$1078
AMI Enterprise III EISA VLB 486DX2-66 w/ 256Kb	$1148
Hint EISA VLB 486DX-33MHz w/ 256Kb	$498
Hint EISA VLB 486DX-50MHz w/ 256Kb	$628
Hint EISA VLB 486DX2-66MHz w/ 256Kb	$698

INTERFACE CARDS

MFM Controller 2HD & 2FD (16-bit)	$25
IDE Controller 2HD, 2FD	$13
IDE Controller 2HD, 2FD, 2s, 1p, 1g	$15
IDE VLB Controller 2HD, 2FD, 2s, 1p, 1g	$38
IDE Orchid VLB Controller 2HD, 2FD, 2s, 1p, 1g	$58
IDE DTC 2270 VLBController 2HD, 2FD, 2s, 1p, 1g	$65
IDE Promise VLB 4030 Caching Controller	$148
SCSI DTC 3280a SCSI Controller (16-bit)	$98
SCSI DTC 3270 VLB Controller (32-bit)	$125
SCSI Adaptec 1542CK w/ Kit Controller (16-bit)	$240
SCSI UltraStor VLB 34F Controller (32-bit)	$268
SCSI Bus Logic VLB KT-445S Controller (32-bit)	$280
SCSI Adaptec 1742 EISA Controller (32-bit)	$398
IDE w/ 4FD & 2HD (Support 2.88)	$28
Other	$Call

MONITORS

14" (1024x768) .39 Interlaced	$198
14" (1024x768) .28 Interlaced	$243
14" (1024x768) .28 Non-Interlaced	$263
14" Acer (1024x768) .28 Non-Interlaced (34T)	$306
14" ViewSonic 6E (1024x768) .28 NI (60Hz)	$306
14" Sampo KDM-1466 (1024x768) .28 NI (70Hz)	$338
14" ADI 3G (1280x1024) .28 NI	$338
14" Sony 1340S (1024x768) .25 NI (70Hz)	$580
15" Mitac (1280x1024) .28 NI	$398
15" ADI 4G (1280x1024) .28 NI	$428
15" ADI 4G (1024x768) .28 NI (Low Radiation)	$468
15" SAMPO KDM-1566 (1280x1024) .28 NI	$438
15" MAG 15F (1024x768) .28 NI	$513
15" ViewSonic 15" (1280x1024) .28 NI	$528
15" NEC 3FGE (1024x768) .28 NI (60Hz)	$598
15" NEC 4FGE (1024x768) .28 NI (72Hz)	$698
17" SAMPO KDM-1766 (1280x1024) .31 NI	$698
17" ADI Low Radiation (1280x1024) .26 NI	$898
17" ViewSonic 7 (1280x1024) .28 NI	$913
17" Nanao F550iw (1280x1024) .28 NI	$1098

SVGA CARD

MGP Card	$15
Super VGA Card w/ 512Kb	$34
Windows Accelerator w/ 1Mb (Cirrus Logic)	$54
Sigma Design TsengLab ET-4000 Hi-Color w/ 1Mb	$78
Windows Accelerator VLB w/ 1Mb (Cirrus Logic)	$80
Genoa 8500 Windows Accelerator VLB w/ 1Mb	$95
Spider Windows Accelerator VLB w/ 1Mb	$95
Spider+ Windows Accelerator VLB w/ 1Mb	$120
Spider Black Widow VLB w/ 1Mb	$215
Spider Black Widow VLB w/ 2Mb	$268
Orchid Fahrenheit 1280 w/ 1Mb	$118
Orchid Fahrenheit 1280 VLB w/ 1Mb	$148
Orchid Fahrenheit 1280 VLB w/ 2Mb	$188
Orchid Fahrenheit VA 1280 VLB w/ 1Mb	$208
Orchid Selsius VLB w/ 2Mb	$268
Orchid P9000 VLB w/ 3Mb	$348
Diamond Speed Star Pro VLB w/ 1Mb	$118
Diamond Stealth 24 VLB w/ 1Mb	$148
Diamond Stealth Pro VRAM w/ 1Mb	$248
Diamond Stealth Pro VRAM w/ 2Mb	$318
Diamond Viper VLB w/ 2Mb	$378
ATI Graphic Ultra Pro VLB w/ 2Mb	$325
Other	$Call

HARD DISK & FLOPPY DRIVE

Western Digital

213MB IDE 14ms (Caviar WD1210)	$198
255MB IDE 13ms (Caviar WD2250)	$238
340MB IDE 12ms (Caviar WD2340)	$288
420MB IDE 12ms (Caviar WD2420)	$408
540MB IDE 12ms (Caviar WD2540)	$Coming Soon

Maxtor

130MB IDE 15ms (Maxtor 7120A)	$168
213MB IDE 15ms (Maxtor 7213A)	$213
245MB IDE 15ms (Maxtor 7245A)	$238
340MB IDE 14ms (Maxtor 7345A)	$298
540Mb IDE 8.5ms (Maxtor MXT-540A)	$768
340Mb SCSI 14ms (Maxtor 7345s)	$388
540MB SCSI 8.5ms (Maxtor MXT-540s)	$768
1.2Gb SCSI 13ms (Maxtor PO-12s)	$898
1.2Gb SCSI 8.5ms (Maxtor MXT-1240s)	$1168
1.7Gb SCSI 13ms (Maxtor P1-17s)	$1128

Quantum

245MB IDE 16ms 256Kb Cache (LPS240A)	$258
245MB SCSI 16ms 256Kb Cache (LPS240s)	$278
525MB SCSI-II <10ms 256Kb Cache (LPS525)	$648
700MB SCSI-II <10ms 256Kb Cache (PD700)	$778
1.0GB SCSI-II <10ms 256Kb Cache (PD1050s)	$968
1.2Gb SCSI-II < 10ms 512Kb Cache (PD1225S)	$1078

Fujitsu

520MB 12ms IDE (M2624T) 3.5"	$638
520MB 12ms SCSI-II (M2624FA) 3.5"	$638
1.2GB 10ms SCSI-II (M2694SA) 3.5"	$998
2.4GB 12ms SCSI-II (M2654SA) 5.25" FH	$1898

Conner

170MB IDE 17ms (CP30174E)	$175
212MB IDE 12ms (CP30204)	$218
250MB IDE 14ms (CP30254)	$228
540MB IDE 12ms (CP30544)	$555
540MB SCSI 12ms (CP3540)	$688

Mircopolis

1.5GB SCSI 15ms (MC 1528)	$978
2.0GB SCSI 14ms (MC 1548)	$1398
2.4GB SCSI 11ms (MC 1924)	$2268
3.6GB SCSI 11ms (MC 1936)	$2838

Teac

1.2Mb Floppy Drive (TEAC)	$45
1.44Mb Floppy Drive (TEAC) w/ Bracket	$45
2.88Mb Floppy Drive (Toshiba)	$65
1.2Mb and 1.44Mb Combo (TEAC)	$118

CD ROM Drives & Software

Mitsumi CD-ROM w/ Controller (350ms)	$178
PanaSonic CD-ROM w/ Controller (390ms)	$218
TEXEL DM-3024 SCSI internal (265ms)	$348
NEC CD-R-84-1 SCSI-ii internal (280ms)	$445
Toshiba XM-3401B SCSI 256K Cache (200ms)	$425

KEYBOARDS

Keyboard 101 Enhanced	$15
Keyboard 101 Keytronic	$28
Keyboard 101 Enhanced Click (NTC)	$25
Keyboard 101 Enhanced Click (NMB)	$45
Keyboard Focus 9000 CLick w/ Calculator	$65
Keyboard 101 w/ TrackBall (Qtronic)	$65
Keyboard Ultra (NorthGate)	$95

MODEMS

Modem 2400 & Fax 9600	$45
GVC Modem 14.400 & Fax 14,400 (Internal)	$138
GVC Modem 14.400 & Fax 14,400 (external)	$168
US Robotics Sporter 14,400 (Modem & Fax) Int.	$168
US Robotics Sporter 14,400 (Modem & Fax) Ext.	$188

MICE

3 Buttons Mouse Serial

\$8^{95}

Logitech 2 Buttons Mouse (High Resolution)	$12
Logictech Mouse Man Serial	$38
Logictech Mouse Man Bus	$55
Logictech Portable Serial Mouse	$45
Real Microsoft Serial Mouse (New Model)	$45
Real Microsoft Bus Mouse	$75

ACCESSORIES

Cpu cooling kit w/ heatsink & fan	$15
Full Version MS-DOS 6.0 (Real Microsoft)	$39.95
Full Version Windows 3.1 (Real Microsoft)	$44.95
Math Coprocessor 387-40MHz	$55
Panasonic 1123 Printer	$198
Panasonic 2123 Printer	$238
Color Option Kit	$48
Power Center (Surge Protector)	$15.95
Printer Stand	$2.95

Case

Mini Desktop Case + Power Supply 200W	$50
Mini Tower Case + Power Supply 200W	$45
Medium Tower Case + Power Supply 230W	$75
Full Size Tower Case + Power Supply 250W	$98
Black Tower (All Model)	$Call

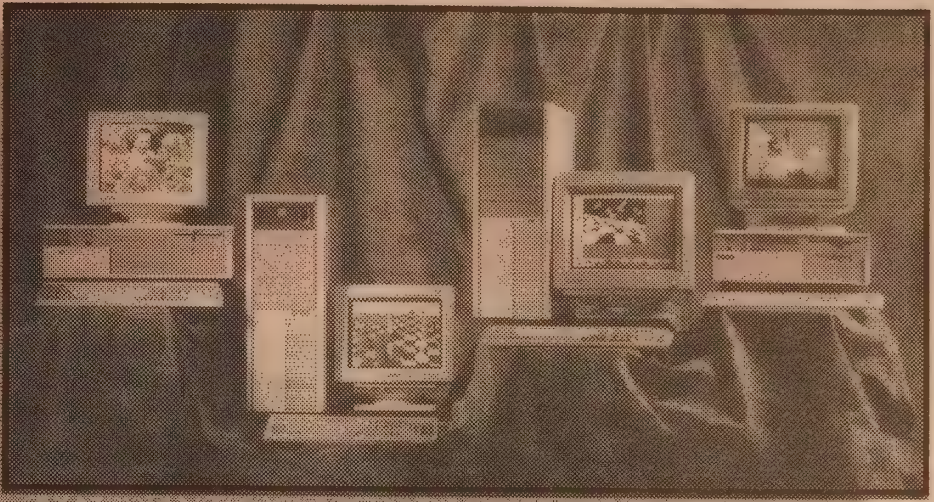
Tape Backup

Colorado 120Mb Tape Back-up	$145
Colorado 250Mb Tape Back-up	$178

Sound Card

Sound Blaster Deluxe	$88
Sound Blaster Pro Deluxe	$125
Sound Blaster 16	$168
Sound Blaster 16 ASP	$208
Media Vision Spectrum Pro 16 w/ SCSI Interface	$148

We Will Beat Any Advertised Price



AMI Super Voyager Vesa LB Systems

- ★ **AMI Super Voyager** w/ **Intel CPU**
- ★ **256KB Cache**
- ★ 4Mb Ram installed expandable to 64Mb (70-pin)
- ★ IDE Controller 2HD & 2FD w/ 2s, 1p, 1g Port (High Speed on Serials Port)
- ★ Floppy Drive 1.2Mb & 1.44Mb
- ★ Hard Disk 130Mb IDE 15ms (Maxtor 7131A)
- ★ **Orchid Fahrenheit** 1280 VLB w/ 1Mb expandable to 2Mb
- ★ **14" Super VGA Color** Monitor (1024x768) **.28 Non-Interlaced**
- ★ 101 Keys Enhanced Keyboard
- ★ Mini Tower Case w/ 200 Watts Power Supply
- ★ **FREE** Real Microsoft Mouse Serial

486DX2-66	$1838
486DX-50	$1768
486DX2-50	$1698
486DX-33	$1628
486SX-33	$1498
486SX-25	$1428

ORCHID Super Board Vesa LB Systems

- ★ **Orchid SuperBoard** w/ **Intel CPU**
- ★ **256KB Cache**
- ★ 4Mb Ram installed expandable to 32Mb (30-pin)
- ★ IDE Controller 2HD & 2FD w/ 2s, 1p, 1g Port
- ★ Floppy Drive 1.2Mb & 1.44Mb
- ★ Hard Disk 130Mb IDE 15ms (Maxtor 7131A)
- ★ **Orchid Fahrenheit** 1280 VLB w/ 1Mb expandable to 2MB
- ★ **14" Super VGA Color** Monitor (1024x768) **.28 Non-Interlaced**
- ★ 101 Keys Enhanced Keyboard
- ★ Mini Tower Case w/ 200 Watts Power Supply
- ★ **FREE** Real Microsoft Mouse Serial

486DX2-66	$1618
486DX-50	$1548
486DX2-50	$1478
486DX-33	$1408
486SX-33	$1268
486SX-25	$1198

PIXEL 486 Series Vesa LB Systems

- ★ Mother-Board w/ CPU
- ★ 128K Cache Expandable to 256Kb
- ★ 4Mb Ram installed expandable to 32Mb
- ★ IDE Controller 2HD & 2FD w/ 2s, 1p, 1g Port
- ★ Floppy Drive 1.2Mb & 1.44Mb
- ★ Hard Disk 130Mb IDE 15ms (Maxtor 7131A)
- ★ Windows Accelerator VLB w/ 1MB (32-bit)
- ★ 14" Super VGA Color Monitor (1024x768)
- ★ 101 Keys Enhanced Keyboard
- ★ Mini Tower Case w/ 200 Watts Power Supply
- ★ **FREE** Real Microsoft Mouse Serial

Intel 486DX2-66	$1448
Intel 486DX-50	$1378
Intel 486DX-33	$1238
Cyrix 486DLC33	$1018
Intel 486SX-25	$1038
AMD 386DX-40	$998

PIXEL 486 & 386 ISA Bus Systems

- ★ MotherBoard w/ CPU
- ★ 128K Cache Expandable to 256Kb
- ★ 4Mb Ram installed expandable to 32Mb
- ★ IDE Controller 2HD & 2FD w/ 2s, 1p, 1g Port
- ★ Floppy Drive 1.2Mb & 1.44Mb
- ★ Hard Disk 130Mb IDE 15ms (Maxtor 7131A)
- ★ Trident 9000 Super VGA Card 512KB (16-bit)
- ★ 14" Super VGA Color Monitor (1024x768)
- ★ 101 Keys Enhanced Keyboard
- ★ Mini Tower Case w/ 200 Watts Power Supply
- ★ **FREE** Real Microsoft Mouse Serial

Intel 486DX2-66	$1398
Intel 486DX-50	$1328
Intel 486DX-33	$1188
Cyrix 486DLC33	$948
Intel 486SX-25	$988
AMD 386DX-40	$928

One Year Warranty Parts & Labor On Systems

- ☐ *Customize Configuration Available*
- ☐ *Financing Available*
- ☐ *24 Hours Turn-Around Time On Service*
- ☐ *All Systems Are Burned-In and Tested for 72 Hours*

Office Hours: Mon - Fri : 9:30 am - 7:00 pm · Sat.: 10:00 am - 6:00 pm

Price, term, availability subject to change without notice. Not responsible for typos.

Call Pixel USA BBS, 929-6981, 8N1, 4 lines, FREE access.

SAVE 3% ON CASH PURCHASE

1937 Tully Road • San Jose, CA 95122

VISA

(408) 929-7218

Fax: (408) 929-7244

MasterCard

PIXEL U.S.A.

continued from page 156

on vocabulary, and systems to track manuscript versions of the Bible.

Each "Tools" package allows you to use your computer to write in the original language. Both Hebrew and Greek type are supported by both programs, so you can mix English, Greek, and Hebrew in one document. Masoretic vowel point-vowels for Hebrew and accents for Greek are provided. The trilingual text-editor supplied with Greek and Hebrew Tools is not the equal of Gamma Corporation's MultiLingual Scholar. It has only one type size and style for each language, and minimal formatting. But the texteditor is an excellent deal for $39. With the book and language learning-helps, each package is an incredible bargain.

BIBLICAL MAPS

Maybe it is a matter of brain-specialization, but sometimes companies that understand text have a difficult time working with graphics. I therefore turned to Parsons' $49 PC Bible Atlas with some trepidation. But it too was excellent.

The PC Bible Atlas is a family of more than sixty maps of the ancient and Hellenistic Near East. The software that comes with it allows you to modify the maps, to annotate and change outline maps of the area, and to print the maps.

The provided maps are set up as hypertext. By clicking on the names of cities, you can discover what role they played in Old and New Testament stories. People who learn more easily from pictures than from text may find the events of Biblical times suddenly becoming real. The maps of the PC Bible Atlas are keyed to Biblical events, but they are also of use to anyone working with classical or Hellenistic history. The latter user may find the blank outline maps of particular interest.

One can use these outline maps to fill in any desired information about the region in question, creating maps for historical projects and even for current political debates. (I used one to illustrate the encounter of Cretan and Mycenaean civilization with invading Hellenes, a millennium before New Testament times.) Your maps can be saved and printed using the same tools that work with the provided Biblical maps. You can also export all the maps as .PCX files, so they are importable into Windows programs.

Parsons Software deserves praise for pricing and crafting. QuickVerse for Windows costs $59, and the DOS v2.0 costs only $49. Either QuickVerse includes one version of the Bible. Each of the "additional versions" costs only $29, so multiple-version comparisons are practical for people who do not have a lot of money. The Hebrew and Greek Tools at $39, and the Bible Atlas for $49, are equally remarkable.

These products are not amateur software. The people at Parsons Technology have given us well-crafted and fast programs, with a number of desirable extra features. Perhaps Matthew 25:21 was addressed to them. Bravo! ■

LOOK NO FURTHER...

WE HAVE EVERYTHING YOU'RE LOOKING FOR–CALL AND BE AMAZED!

AT PORTABLE COMPUTER CENTER WE ARE ABLE TO CUSTOM BUILD ANY DESKTOP CONFIGURATIONS INTO OUR PORTABLES TO SUIT YOUR NEED. PLEASE CALL FOR OPTIONS LIKE INTERNAL CD ROM, TAPE BACKUP SYSTEM, UP TO ONE GIGABYTE IDE, ESDI, OR SCSI HARD DISKS.

HI CONTRAST VGA PLASMA PORTABLE

- 4 MB Memory (Expandable To 32 MB)
- 1.2 MB & 1.44 MB Floppy Disk
- 120 MB Hard Disk*
- SVGA Card w/1 MB
- 2 Serial/1 Parallel Ports
- 200 Watt PS/110/220 V
- Plasma Display On/Off Switch
- External Display Up To (1280x1024)
- 2 Full/1 Half Length Slots Free
- Deluxe Carrying Case

150:1 RATIO 101 KEY

• 486DX2-66 w/256K Cache	$2495
• 486DX-50 w/256K Cache	2395
• 486DX-33 w/256K Cache	2245
• 386DX-40 w/128K Cache	1975

SUPER VGA COLOR CRT PORTABLE

- 4 MB RAM (Up To 32 MB)
- 210 MB IDE (13ms) HD
- All-Media 1.2 & 1.44 Floppy
- 2 Serial/Parallel Ports
- 3 Drive Bays
- 5 16-Bit Slots
- SVGA Card w/1 MB (32K Colors)
- Carrying Case

9.5" 1024x768 101 Keys

• 486DX2-66 MHz w/256K Cache	$2595
• 486DX-50 MHz w/256K Cache	2495
• 486DX-33 MHz w/256K Cache	2395
• 386DX-40 MHz w/128K Cache	2045

★ ALL PORTABLES ARE AVAILABLE IN EISA & VESA L. BUS

★ COLOR VGA LCD (ACTIVE MATRIX) ....$CALL

STORAGE SYSTEM LCD PORTABLE LUNCH BOX PC
(Looks Like and Has The Same Configuration As The Plasma Above)

• Case And Video Card Only	$795
• 486DX2-66 MHz w/256K Cache	2135
• 486DX-50 MHz w/256K Cache	2015
• 486DX-33 MHz w/256K Cache	1835
• 386DX-40 MHz w/128K Cache	1585

STORAGE SYSTEM PORTABLE ALL-IN-ONE PC
SVGA 386SX-25 MHZ
$1295

- 1 MB RAM Up To 16 MB
- 1.44 MB F.D. (Option Ext. 1.2)
- 120 MB H.D. Up To 340 MB
- 16-Bit SVGA Video/101 Keyboard
- 2 Serial/1 Parallel • Carrying Bag
- Two 16-Bit Expansion Slots

DESKTOP MONTHLY SPECIAL

486DX2-66 128K VESA LB	$1495
486DX-50 128K VESA LB	1395
486DX-33 128K VESA LB	1275
486DX2-66 128K ISA	1475
486DX-50 128K ISA	1385
486DX-33 128K ISA	1265
386DX-40 128K	985

ALL SYSTEMS ABOVE INCLUDE:

- 4 MB RAM
- 212 MB IDE H. Disk (13ms)
- Teac 1.2 MB or 1.44 MB Floppy
- SVGA Monitor (1024x768 .28 dpi)
- SVGA Video Card w/1 MB
- IDE 2HD/2FD Controller
- 2 Serial/Parallel/Game Port
- Enhanced 101 Keyboard
- Mini Tower or Desktop Case

★ FREE 3-Button Mouse & Gift

UPGRADE	ADD:
256K Cache	$20
250MB Hard Disk	30
345MB Hard Disk	100
Non-Interlaced Monitor	30

PLEASE CALL FOR:
Other Configurations
System Upgrade/Repair
Hardware/Software
Prices subject to change w/o notice

CONTROLLER & ADD-ON CARDS

Adaptec 1542CK	$245
DTC 3280 SCSI Controller	65
Bustek BT542BK SCSI Controller	125
IDE Controller 32 Bit Local BUS	55
144/144 Fax Modem w/WinFAX	165
96/24 Fax Modem w/WinFAX	59
Logitech Mouseman Ser/Bus	60

MONITORS

SVGA 14" (1024x768 .28)	$235
SVGA 14" (1024x768 .28) NI	255
NEC 14" (1024x768 .28) NI	345
NEC 3FGE (1024x768 .28) NI	595
NEC 4FGE (1024x768 .28) NI	695

NETWORKING SOLUTION FOR BUSINESS

NOVELL LITE OR WINDOWS WORKGROUP 2 STATIONS STARTER KIT	$295
-ADDITIONAL STATION	145

-Copies Of Above Application
-16-Bit Ethernet Adapter
-Cables & Terminators
-Basic Hardware & Software Installation
-On-Site Installation Available

VIDEO CARDS

Genoa 8500 VLB 32-Bit	$115
Diamond Stealth VLB 24-Bit	169
Diamond Stealth ISA 24-Bit	159
Diamond SpeedStar Pro VLB 24-Bit	125
Diamond SpeedStar Pro ISA 24-Bit	125

DRIVES

Toshiba XM34001B SCSI CD-ROM	$455
Texel DM-3024 SCSI CD-ROM	375
Conner 540 MB IDE H. Disk	665
Conner 250 MB IDE H. Disk	229
Maxtor 345 MB IDE H. Disk	305
Maxtor 245 MB IDE H. Disk	229
W. Digital 345 MB IDE	295
W. Digital 250 MB IDE	225
W. Digital 210 MB IDE	205
Colorado 250 MB Tape Drive	175
Colorado 120 MB Tape Drive	145

DEALER PRICING & QUANTITY PRICING AVAILABLE

STORAGE SYSTEM ENGINEERING SERVICE
3350 Scott Blvd., Building 19, Suite 1902 (near Bowers Ava.)
Santa Clara, CA 95054

S.F. Lawrence Expwy. S.F.
Central Expwy. Scott Blvd. Bowers San Tomas N T
S.J. S.J.

408-727-6040
FAX: 408-727-6042
Hours: 10am-6:30pm M-F
12 noon-4:00pm Sat

MasterCard VISA

YOUR SOURCE FOR RELIABLE COMPUTERS & PERIPHERALS SINCE 1983

COMPUTER EXPRESS TECH

3% OFF IF PURCHASE 3 OR MORE SUPER BASIC SYSTEM.
WE WILL BEAT ANY ADVERTISED PRICE!
ONE YEAR WARRANTY PARTS & LABOR FOR SYSTEMS.

2725 ELCAMINO REAL SUITE #104
SANTA CLARA, CA 95051
TEL (408) 247-1996 FAX (408) 247-1184
BUSINESS HRS: MON-FRI 9:30AM-6:00PM
SAT & SUN 11:30AM-4:00PM
*****OPEN 7 DAYS A WEEK*****

BASIC SYSTEM INCLUDES	SUPER BASIC	OPTION A	OPTION B	OPTION C
MB w/Internal Clock Calendar CPU,Mini or At Case w/230W IDE:2Fd/2Hd w/1P,2S,1Game 1.2or1.44 Fd,101KB&1Mb Ram	Basic Configuration + Total 4Mb Ram Total 1.2&1.44 Fd + Your Option A,B or C	.28Dp,14"SVGA (1024x768)IN-Monitor SVGA-Trident 512k 120 Mb Conner	.28 Dp, 14"SVGA (1024x768) NI-Monitor SVGA-Trident 1Mb 170Mb Conner Hd	.28Dp, Viewsonic 6E Luminar 1Mb SVGA 16 Million Colors 210 Mb Maxtor Hd

SYSTEM	MB&CPU	BASIC SYS.	SUPER BASIC + OPTION A	SUPER BASIC + OPTION B	SUPER BASIC + OPTION C
386DX-40/128K. ISA	$128	$288	$885	$979	$1045
486DX-33/128K. ISA	$359	$518	$1108	$1158	$1250
486DX2-50/128K.ISA	$402	$546	$1138	$1217	$1285
486DX-50/128K.ISA	$499	$656	$1248	$1320	$1400
486DX2-66/128K.ISA	$563	$712	$1318	$1398	$1470
486DX-33/128K.VLB	$375	$529	$1138	$1218	$1303
486DX-33/256K.VLB ORCHID	$458	$598	$1202	$1287	$1367
486DX-50/128K.VLB	$518	$671	$1278	$1358	$1443
486DX-50/256K.VLB ORCHID	$620	$770	$1375	$1455	$1540
486DX2-66/256K.VLB ORCHID	$646	$795	$1405	$1485	$1570
486DX2-66/128K.VLB	$581	$727	$1339	$1419	$1504
486DX-33/128K.EISA VESA	$444	$584	$1189	$1269	$1354
486DX-40/256K. ISA(AMD CPU)	$425	$596	$1188	$1285	$1370
486DX2-66/256K.EISA VESA(AMI)	$992	$1183	$1800	$1885	$2055

HARD DRIVES

40MB(IDE)........................$99
80MB(IDE)........................$148
120MB(IDE)CONNER....$159
130MB(IDE)MAXTOR...$179
170MB(IDE)CONNER....$184
210MB(IDE)MAXTOR...$219
250MB(IDE)MAXTOR...$235
340MB(IDE)MAXTOR...$309
540MB(IDE)MAXTOR...$680
520MB(SCSI-FUJ.)...........$725
120MB(DJ-10)COLORADO.....$145
250MB(DJ-20)COLORADO...$184

CONTROLLER CARDS

IDE:2FD,2HD:1P,2S,1G....$18
I/O W/1P,2S,1G.................$12
PARALLEL CARD............$12
IDE VLB/ORCHID VLB.$40/59

PROMISE
DC 200 IDE CACHE(UP TO 16MB).$115
DC 2032 IDE W/io CACHE UP 16MB$135
DC 2040 SCSI CACHE UP TO 16MB$209
DC 4030 VLB IDE UP TO 16MB......$165

ULTRASTOR
UL15C ide up to 8MB $185
UL14F isa/scsi 32k Cache...$215
UL24F scsi/eisa 64k Cache.$360
UL34F scsi/VLB 32k Cache$280
UL22C eisa/esdi up to 16MB$490

ADAPTEC
1552M isa/scsi W/io.........$85
1522K scsi W/ kit............$159
1542C scsi/isa/+kit....$200/249
1640 scsi W/kit........$335
1742A scsi/eisa/+kit...$350/415

FLOPPY DRIVES

1.2 TEAC $46
1.44 TEAC.......$39
1.2/1.44DUAL.$129
2.88MB FD.......$109
MOUNTING KIT.$5

GRAPHIC CARDS

TRIDENT 512K/1MB.......$32/59
24 BITS LUMINAR 1MB.$80
GENOA VLB W/1MB......$118
SPIDER VLB1MB/2MB...$98/149
SPIDER+VLB1MB/2MB..$118/179
BLACK WIDOW VRAM 1MB$215

ORCHID
PRO DESIGNER IIS W/1MB.$125
FARENHEIT 1280(ISA)1MB.$135
FARENHEIT+1280 VLB 1MB UP.2MB.$149
FARENHEIT VA W/1MB UPG.2MB....$185
FARENHEIT VA/VL 1MB UPG.2MB...$209
CELCUIS 1MB VRAM VLB....$225
P9000 VLB(3MB):2 VRAM,1DRAM..$342

DIAMOND
SPEEDSTAR PRO 1MB(ISA/VLB).$118
STEALTH 24 1MB ISA/VLB..$155/165
STEALTH PRO VRAM 1MB ISA..$249
STEALTH PRO VRAM 1MBVLB.$265
STEALTHPROVram2Mb-isa/vlb$318/325
VIPER VLB 2MB/FAST BUS .$377/579

ATI
GRAPHIC ULTRA + 2Mb(Dram)...$239
GRAPHIC ULT.Pro 2Mb.Vram,LVB.$339
GRAPHIC ULT.Pro 2Mb.Eisa........$465

MONITORS

VIEWSONIC
V6E:14".28dp NI....$305
V4E:14".28dp IN....$270
V5+/VE:NI,14",(MACII).$460/360
V15/V17/V20.(MACII).$530/1070/1700
MAC CABLE ADAPTER $35

KFC
14" SVGA 1024X768(IN).$245
14" SVGA 1024X768(NI).$265
15"SVGA 1280X1024(NI).$435

SONY
CPD-1430S 14".25dp..$585
CPD-1730 17" .25dp....$995
GDM-2036S 20" .30dp.$1969
GDM-2038 20" .30dp...$2249

NEC
3FGE 15" .28dp..$584
4FGE 15" .28dp...$684
5FGE 17" ,28dp...$1090

NANAO
F340IW 15",.28dp....$665
F550I 17",.28dp(1280x1024).$1015
F550IW 17",.28dp(27-65khz).$1080
T560I 17".26dp(30-78khz)..$1670
F750I 21".31dp(1600x1280)..$1933
F760IW 21".31dp(27-78khz),(1280x1024).$2048
T660I 20".31dp(30-78khz),(1280x1024)..$2380

MAG InnoVision
LX1564 15".28dp (1280x768).$459
LX15F 15" .28dp (1280X768)..$535
LX17 F 17" .26dp (1280x1024).$960

HITACHI American Limited
CM2095/2087 20".31dp(NI).$1295/1585
CM1785 17"/CM2187 21"..$888/$1969

KEYBOARDS

BTC 101 Enhanced KB...$21
MAXISWITCH.............$29
KEYTRONIC................$32
FOCUS 2000/9000.........$39/62
OMNI 101/102..............$69/69
OMNI ULTRA..............$89

MISCELLANEOUS

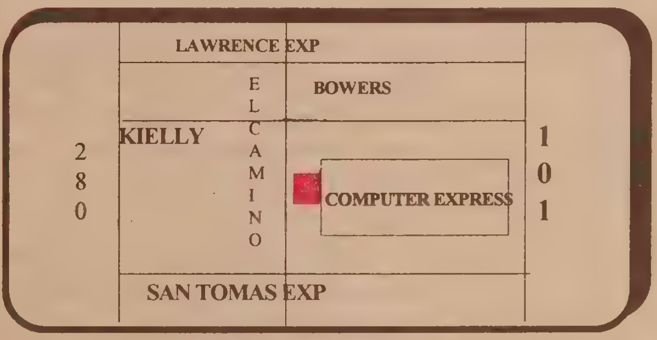
2400 Modem w/9600 send..$26
Fax/Modem(9600/2400).....$46
Fax/Modem(14.4/14.4).....$145

CASE
Mini/Med w/Led&230W..$55/86
Tower w/Led&230W........$98
230 Watts power supply....$30

MOUSE
Microsoft Mouse Comp....$12
Microsoft Mouse............$78
Microsoft OEM..............$45
Logitech Serial/Bus.........$62/65
Logitech OEM...............$40
First Mouse...................$39
COOLING FAN............$15

A MEDIA VISION AUTHORIZED RESELLER

*.Pro 16 Multimedia System I package....................$645
*.New Pro 16 Multimedia System II Includes NecCDR84, Pas 16 Studio Sound Card, 8 CD Titles,Microphone & Voice Recognition Software for Windows..............$835
*.Sound Blaster Multimedia System w/CD ROM...$395
*.Pro Movie Studio...$295
*.Sound Blaster Pro ASP..$200
*.Pro Audio..$175
*.Pro Audio Spectrum 16..$168
*.Toshiba CD ROM 3401(200ms)..........................$429
*.Nec CD ROM 84M(280ms)................................$420
*.Mitsumi CDROM (350ms)...............................$176
*.Sony CD ROM 31A(490ms)..............................$295
*.Creative Lab Sound Blaster Pro Delux.................$138
*.Creative Lab Video Blaster.................................$336
*.Creative Lab Wave Blaster..................................$245
*.Discovery 16 bits /8bits int..............................$449/396



PURCHASE ORDERS ARE WELCOMED&SUBJECT TO APPROVAL. PRICE & AVAILABILITY SUBJECT TO CHANGE W/O NOTICE. NOT RESPONSIBLE FOR TYPOS. SHIPPING, INSURANCE & COD CHARGES ARE EXTRA

COME & JOIN US–WE OFFER THE BEST PRICE, QUALITY, AND SERVICE.

RESOURCES

Calendar Of Events

CONFERENCES, SHOWS, AND OTHER SPECIAL EVENTS

AUGUST

August 21 Computer Show & Sale Featuring How To Buy, Build, Or Upgrade Your PC Seminar. Cow Palace. Richard James. Call: 1-800-685-1400.

August 22 The Computer Show & Sale. Scottish Rite Center, Sacramento. MarketPro. Call: (415)388-8893.

August 23–25 ABCD's Breakaway '93 Conference. San Francisco. ABCD. Call: (601)977-9033.

August 23–25 VAR Support '93 Conference. Santa Cruz. Mikael Blaisdell & Associates. Call: (510)865-4515.

August 23–27 INTEROP 93 Conference. San Francisco. Interop Co. Call: (415)941-3399.

August 24–25 Home Office Technology Conference. San Jose. Home Office Computing. Call: (408)369-7744.

August 28 Computer Show & Sale. Santa Clara County Fairgrounds. Richard James. Call: 1-800-685-1400.

August 28 The Computer Show & Sale. Solano County Fairgrounds, Vallejo. MarketPro. Call: (415)388-8893.

August 29 The Computer Show & Sale. Marin Civic Center. MarketPro. Call: (415)388-8893.

August 31 IICS Human Interface SIG Meeting. San Francisco. Medius IV. Call: (415)905-6959.

SEPTEMBER

September 5 Computer Show & Sale. Alameda County Fairgrounds, Pleasanton. Richard James. Call: 1-800-685-1400.

September 9–11 CompuExpo '93. Las Vegas Convention Center. UNSC Investment Group. Call: 1-800-822-1229.

September 11 The Computer Show & Sale. Sonoma Co. Fairgrounds. MarketPro. Call: (415)388-8893.

September 11–12 Computer Show & Sale Featuring How To Buy, Build, Or Upgrade Your PC Seminar. Oakland Coliseum. Richard James. Call: 1-800-685-1400.

September 13–14 Network Outlook '93 Conference. San Francisco. Technologic Partners. Call: (212)696-9330.

September 16–18 Windows Solutions Conference And Exposition. Santa Clara. Seybold Seminars. Call: 1-800-433-5200.

September 18 Computer Show & Sale. Santa Clara County Fairgrounds. Richard James. Call: 1-800-685-1400.

September 18 The Computer Show & Sale. Solano County Fairgrounds, Vallejo. MarketPro. Call: (415)388-8893.

September 19 The Computer Show & Sale. Centre Concord. MarketPro. Call: (415)388-8893.

September 21–23 Mobile World Conference And Exposition. San Jose. DCI. Call: (508)470-3880.

September 25 The Computer Show & Sale. Conference Center, San Francisco. MarketPro. Call: (415)388-8893.

Continued

AUGUST 23–24

HOME OFFICE TECHNOLOGY CONFERENCE AND EXPOSITION

San Jose Convention Center

Nearly forty million people in this country work from their home—either as home-based business owners, telecommuters, or after-hours workers. With over $23 billion in equipment and services spent annually, the home office represents the fastest growing technology market in the US. This free conference and expo will showcase hardware, software, and services providing solutions in the dynamic and growing home office market. For more information, call (408)369-1065.

SEPTEMBER 1

MULTIMEDIA STUDIES PROGRAM, SFSU

Embarcadero Center, San Francisco

The Multimedia Studies Program at San Francisco State University will hold its Fall Information Session on Wednesday, September 1, from 6:00 to 8:00 pm at the Hyatt Regency, 5 Embarcadero Center. The event will showcase student multimedia projects as well as provide an informal setting in which to meet and question multimedia faculty members about their individual classes. Applications for registration will be available. The Information Session is open to all, but anyone interested in attending should register by calling (415)904-7700.

OCTOBER 10

CALIFORNIA COMPUTER SHOW & SALE

Rancho Arroyo Sports Complex, Sacramento

The California Computer Show & Sale is coming to Sacramento, in this brand new facility. The show features millions of dollars in new PC compatibles, hardware, software, and accessories. Admission to the show is $6 for adults, with children under 12 admitted free, and is open from 10:00 am to 4:00 pm. The Sports Complex is located at 9880 Jackson Rd. in E. Sacramento. For more information, call 1-800-685-1400.

CALL FOR PARTICIPATION

NINTH ANNUAL INTERNATIONAL CONFERENCE ON TECHNOLOGY AND PERSONS WITH DISABILITIES

At the Los Angeles Airport Marriott Hotel, March 16–19, 1994, this is a comprehensive, international conference on technology, where all ages, disabilities, and levels of education and training are covered. The call for participation is an invitation to present a one-hour session. Authors are invited to share applications of hardware and software, adaptive devices, training programs, and results of research. For further information, contact Dr. Harry Murphy, founder and director of the Center on Disabilities, CSU Northridge, 18111 Nordoff St. DVSS, Northridge, CA 91330. Voice/TDD: (818)885-2578.

CAL-TECH
CTC
CORPORATION

Highest Quality with Lifetime Labor

SYSTEMS

486-66 VLB EISA 16MB, 425HD, SVGA MULTIMEDIA SYSTEM

- Intel 486DX2-66CPU with Cooling Fan
- VLB + EISA Motherboard w/256K Cache
- 16MB RAM
- 425MB WD Hard Drive
- Teac 3.5" & 5.25" Floppy Drives
- VLB IDE + I/O Controller
- VLB Diamond Stealth Pro w/1MB
- Pro Audio Spectrum 16 w/SCSI-2
- Teac CD-50 CD-ROM Drive (256ms 350K/s)
- Viewsonic 15, 15" NI .28 SVGA Monitor
- Medium Tower w/230W PSU
- Enhanced Keyboard
- Microsoft Compatible Mouse
- Pair of Speakers

$3175

486-40 VLB 4MB, 250MB, SVGA MULTIMEDIA SYSTEM

- AMD 486DX-40 CPU
- VLB Motherboard w/128K Cache
- 4MB RAM
- 250MB Conner Hard Drive
- Teac 3.5" & 5.25" Floppy Drives
- VLB IDE + I/O Controller
- VLB Orchid Fahrenheit w/1MB
- Sound Blaster Pro Deluxe w/CD-ROM Encyclopedia
- Panasonic 562 CD-ROM Drive (320ms 300K/s)
- 14" NI .28 SVGA Monitor
- Mini Tower w/230W PSU
- Enhanced Keyboard
- Pair of Speakers

$1695

486-66 VLB 8MB, 340HD, SVGA SYSTEM

- Intel 486DX2-66 CPU with Cooling Fan
- VLB Motherboard w/128K Cache
- 8MB RAM
- 340MB Hard Drive
- Teac 3.5" & 5.25" Floppy Drives
- VLB IDE + I/O Controller
- VLB Orchid Fahrenheit w/1MB
- 14" .28dp Non-Interlaced SVGA Monitor
- Medium Tower w/230W PSU
- Enhanced Keyboard

$1895

486-40 VLB 4MB, 250HD SVGA SYSTEM

- AMD 486DX-40 CPU
- VLB Motherboard w/128K Cache
- 4MB RAM
- 250MB Conner Hard Drive
- Teac 3.5" & 5.25" Floppy Drives
- VLB IDE + I/O Controller
- VLB Cirrus Logic 5426 w/1MB
- 14" .28 NI SVGA Monitor
- Mini Tower w/230W PSU
- Enhanced Keyboard

$1319

SPECIALS

Limited Time!

Viewsonic 6E, 14" .28dp 1024x768 Monitor	$284
Viewsonic 15, 15" .28dp 1280x1024 Low Radiation Monitor	$495

MULTIMEDIA

Free Installation When You Purchase Sound Card And CD-ROM Drive

TEAC CD-50 CD-ROM Drive (64K Buffer, 265ms, 350K/s, Photo-CD Multisession, SCSI-2)	**$325**
Panasonic CR-562 (64K Buffer, 320ms, 300K/s, Photo-CD Multisession, AT-Interface)	**$225**
Pro Audio Spectrum 16 w/SCSI Interface	129
Sound Blaster Pro Deluxe w/AT Interface	112
Sound Blaster 16 ASP w/AT Interface	195

ACCESSORIES

HARD DRIVES • FLOPPY DRIVES • TAPE DRIVES

3.5" 1.44MB TEAC Floppy Drives	$38
5.25" 1.2MB TEAC Floppy Drives	45
250MB IDE WD/Maxtor/Conner	216
340MB IDE WD/Maxtor	289
425MB IDE WD	399
Archive XL 92501, 250MB Tape Drive w/Tape	139
250MB Colorado DJ-20 Tape Drive	167

VIDEO CARDS

VLB Cirrus Logic 5426, 1MB	$82
VLB Diamond Speed Star Pro	111
VLB Diamond Stealth 24, 1MB	145
VLB Diamond Stealth Pro, 1MB	245
VLB Diamond Viper, 2MB	375
VLB Orchid Fahrenheit, 1MB	135
VLB ATI Graphics Ultra Pro w/2MB	325

MONITORS

14" Interlaced, .39dp	$195
14" Interlaced, .28dp	229
14" Non-Interlaced, .28dp	255
15" Non-Interlaced, .28dp	359
Viewsonic 6E, 14" .28dp Non-Interlaced	284
Viewsonic 15, 15" .28dp Non-Interlaced	495
KFC 17" .26dp Non-Interlaced	759

CASES

MiniTower w/230W PSU	$44
Medium Tower w/230W PSU	63

CONTROLLER CARDS

IDE + I/O (2S/1P/1G)	$13
VLB IDE + I/O (2S/1P/1G)	33
VLB IDE Cache, Promise DC-4030VL	156
ISA Adaptec 1542CK SCSI	229
EISA Adaptec 1742A SCSI Master	339
VLB Ultrastor 34F SCSI	274

MOTHERBOARDS • CPU •MEMORY

VLB Intel/AMD 486DX-33/40 w/128K, Forex Chipset	$369
VLB Intel/AMD 486DX-33/40 w/128K, Opti Chipset	383
VLB Intel 486DX2-66 w/128K Forex Chipset	569
VLB Intel 486DX2-66 w/128K Opti Chipset	589
VLB + EISA Intel/AMD 486DX-33/40 w/256K Hint Chipset	489
VLB + EISA Intel 486DX2-66 w/256K Hint Chipset	689
Heat Sink w/Cooling Fan for 486 CPU	8
CPU	CALL
Memory	CALL

FAX/MODEM

US Robotics Sportster 14.4/14.4 Internal	$159
US Robotics Sportster 14.4/14.4 External	185
Generic Rockwell 14.4/14.4	129
Generic 96/24	35

INPUT DEVICES

Chicony Soft-Key Keyboard	$15
Enhanced Keyboard w/Click	24
Focus 2001 Keyboard	34
Focus 9000 Keyboard	55
Dexxa Mouse	15
Logitech Mouseman	55
Microsoft Mouse	39

CAL-TECH
CTC
CORPORATION

Cal-Tech Corporation

29640 Union City Blvd • Union City, CA 94587
Lifetime Labor & 1 Year Warranty On All Systems
Dealer Inquires & International Orders Welcome

Price & Availability subject to change w/o notice • Not responsible for typos, Ad reflects cash discount

(510) 487-9578
Fax (510) 487-9609
Hours: 8am-8pm, Mon.-Fri.
Sat. & Sun. By Appointment

N
San Mateo Bridge
Union City Blvd.
880
Whipple Rd.
S

Calendar Of Events continued

September 25 Computer Show & Sale Featuring How To Buy, Build, Or Upgrade Your PC Seminar. Cow Palace. Richard James. Call: 1-800-685-1400.

September 26 The Computer Show & Sale. Scottish Rite Center, Sacramento. MarketPro. Call: (415)388-8893.

September 28–29 Electronic Book 1993 Conference And Exhibition. New York. Mekler. Call: 1-800-632-5537.

September 29–30 Defining The Electronic Consumer II Conference. New York. Jupiter Communications. Call: (212)941-9252.

OCTOBER

October 3 The Computer Show & Sale. Marin Civic Center. MarketPro. Call: (415)388-8893.

October 4–6 4th UNIX Security Symposium. Santa Clara. USENIX Association. Call: (714)588-8649. Email: conference@usenix.org.

October 9 Computer Show & Sale Featuring How To Buy, Build, Or Upgrade Your PC Seminar. Oakland Coliseum. Richard James. Call: 1-800-685-1400.

October 10 The Computer Show & Sale. Centennial Hall, Hayward. MarketPro. Call: (415)388-8893.

October 10 Computer Show & Sale. Rancho Arroyo Sports Complex, Sacramento. Richard James. Call: 1-800-685-1400.

October 16 The Computer Show & Sale. San Mateo Expo Center. MarketPro. Call: (415)388-8893.

October 16–17 Computer Show & Sale Featuring How To Buy, Build, Or Upgrade Your PC Seminar. Cow Palace. Richard James. Call: 1-800-685-1400.

October 17 The Computer Show & Sale. Centre Concord. MarketPro. Call: (415)388-8893.

October 20–23 Seybold San Francisco Conference And Exposition: The Evolving Process Of Communication. San Francisco. Seybold Seminars. Call: 1-800-433-5200, ext. 1010.

October 23 Computer Show & Sale. Santa Clara County Fairgrounds. Richard James. Call: 1-800-685-1400.

October 23 The Computer Show & Sale. Solano County Fairgrounds, Vallejo. MarketPro. Call: (415)388-8893.

October 24 The Computer Show & Sale. Sonoma County Fairgrounds, Santa Rosa. MarketPro. Call: (415)388-8893.

October 26–28 Common Desktop Environment Developers Conference. San Jose. UniForm Association. Call: 1-800-225-4698.

October 26–28 COSE Developers Conference. San Jose. Smith & Shows. Call: (508)879-6700.

October 31 Computer Show & Sale. Alameda County Fairgrounds, Pleasanton. Richard James. Call: 1-800-685-1400.

October 31 The Computer Show & Sale. Cal Expo, Sacramento. MarketPro. Call: (415)388-8893.

CLASSES, SEMINARS, AND WORKSHOPS

AUGUST

August 21 Mac Maintenance And Troubleshooting Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 21 System 7 Workshop. San Francisco. Media Alliance. Call: (415)771-7133.

August 22 Mac Basics Level I Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 23 Adobe Illustrator II Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 23 Beginning Excel Class. Oakland. California Computer Options. Call: (510)444-5700.

August 23 Intermediate Lotus 1-2-3 Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 23 PageMaker II Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 23–24 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

August 23–26 Novell System Administrator 3.11 Class. Oakland. California Computer Options. Call: (510)444-5700.

August 24 Intermediate WordPerfect For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 24 Intro To Local Area Networks Seminar. San Francisco. Network Services Group. Call: 1-800-998-3540.

August 24–27 Intro To AutoCAD Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

August 24–September 14 MacroMedia Director Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 25 Increasing Productivity With Multimedia Seminar. San Francisco. Network Services Group. Call: 1-800-998-3540.

August 25 Intermediate Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 25 Intro To UNIX Seminar. San Francisco. Network Services Group. Call: 1-800-998-3540.

August 25 Intro To Windows 3.1 Seminar. San Francisco. Network Services Group. Call: 1-800-998-3540.

August 25–26 Supporting & Troubleshooting Windows 3.1 Seminar. San Francisco. Data-Tech Institute. Call: (201)478-5400.

August 26 Intermediate WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 26 Networking For Small Offices Seminar. San Francisco. Network Services Group. Call: 1-800-998-3540.

August 27 Intermediate Paradox Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 27 Windows For Workgroups Class. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

August 28 A Beginners Guide To Telecommunications On The Mac Course. San Francisco. Media Alliance. Call: (415)771-7133.

August 28 Overview Of The Telecommunications Industry Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

August 28 Self-Employment: Doing Business In Your Electronic Cottage Course. Santa Clara. UC Extension. Call: (408)748-2950.

August 29 Mac Basics Level II Class. San Francisco. Media Alliance. Call: (415)771-7133.

August 29–30 Learning Technologies For Educators Workshops For Educators In Writing, Foreign Languages, Or Physics. Berkeley. Instructional Technology Program, UC Berkeley. Call: (510)642-1668. Email: ipt@garnet.berkeley.edu.

August 30 Beginning PowerPoint Class. Oakland. California Computer Options. Call: (510)444-5700.

August 30 Intermediate Excel For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 30–31 Asymetrix Toolbox For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

August 30–31 3D Microstation Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

August 30–December 22 Intro To UNIX With Solaris 2.0 Course. Oakland. Laney College. Call: (510)834-5740.

August 31 Advanced WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

August 31 Microstation Training Information Session Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

SEPTEMBER

September 1 Intro To WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 1 Microsoft Information Session Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 1 Microsoft Publisher And Word For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 1 Multimedia Information Session Class. San Francisco, SFSU Extended Education. Call: (415)904-7700.

September 1–3 Update From AutoCAD Release 10 To 12 Class. San Francisco. SFSU Extended Education. Call: (415)904-

Continued

WE SELL QUALITY, RELIABILITY, SERVICE & TECHNOLOGY!!

** PromoX SS II-40 WORKSTATION **

$4995

SUN SPARC II-40 MHz 100% Compatible

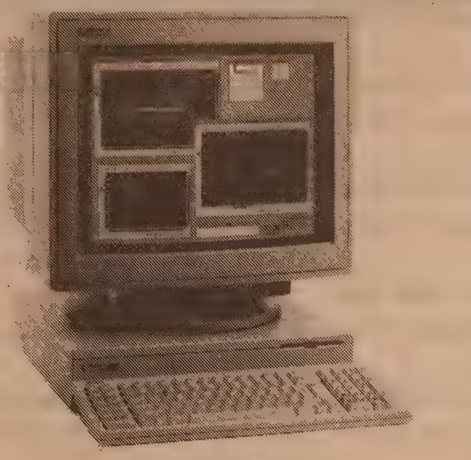
40 MHz SPARC Integer Unit/Floating Point Processor, 64K Write Through Cache, Three S-bus Expansion Slots, 32MB RAM, Sync SCSI Controller, 2 RS-423A I/O Ports, 15-pin Ethernet Port, Desktop Case, Keyboard, Mouse, 340 MB Hard Drive, SVGA Frame Buffer, 15" Color Monitor, SUN Solaris OS 1.0 (Includes SUN OS, Sunview and Openwindow)

UPGRADE SPARC™ I + TO SPARC™ II-40	**$1495**
SS II-50	**$5250**
SS 10-30 (100% SPARC 10 COMPATIBLE)	**$8590**
SS 10-41 (100% SPARC 10 COMPATIBLE)	**$10,345**
External Toshiba CD-ROM (200ms) Switchable Between SPARC & DOS	**$650**

*** X TERMINAL/SERVER ***

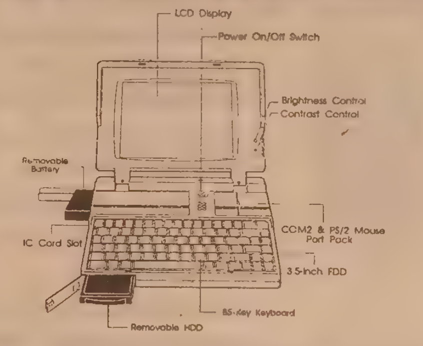
X Terminal 14"/17" Color Monitor	$1545/1745
X-Net (XII/R5 Server for DOS, TCP/ IP, PC/NFS, FTP, TELNET)	245
PC-NET (TCP/IP, NFS, FTP, TELENET, DOS TAR & PRINTER ROUTER)	99

➡Come see our new technology–Multi-Network Environment



ONE YEAR ON-SITE SERVICE! BUY SS II AND GET X NET FREE!

** NOTEBOOK COMPUTER **



Supports UNIX/XWINDOWS Driver!

386SX-25/386SL-25/386DXL-33 MHz with 4/8 MB RAM, 1.44 MB FD, 80/120/200 MB HD	**From $1150**
486 (SX-25, DX-33/50/66) Upgradable Notebook (Mono/Passive Matrix Color/Active Matrix Color)	**From $1700**

*** UNIX FOR PC ***

Ready To Run LINUX/GNU/X in CD	$60
LINUX w/Sony CD-ROM	255
Licensed AT&T UNIX SVR4.0.3 2-Users Complete Set	600
X11R5/Motif 1.2 for SVR4/UNIXWare/SunSoft UNIX	290

SunSoft (Interactive) UNIX:

Interactive UNIX/386 Base Solution (2 User)	$345
Interactive UNIX/386 Network Solution (2 User)	695
Interactive UNIX/386 Graphics Solution (2 User, Tape)	835
Interactive UNIX/386 Software Development System	555
Interactive UNIX/386 X11 Development System	315
Interactive UNIX/386 Motif Development System	275
Solaris 2.1 Desktop for x86	555
Solaris 2.1 Workgroup Server for x86	1455
Solaris Driver Developer's Kit for x86	225
Solaris 2.1 for x86 ProWorks C	975
Solaris 2.1 for x86 ProWorks C++	1455

SCO UNIX (ODT):

SCO Open Desktop 3.0 (CD-ROM)	$835
SCO Open Server Enterprise System (CD 16 User)	1535
SCO Open Desktop Development System	1255
SCO Open Server Network System (CD 16 User)	1325
SCO UNIX (2 User)	415
SCO UNIX (16 User)	905
SCO UNIX Development System	905
SCO TCP/IP for SCO UNIX	395
SCO NFS for SCO UNIX	625

Univel UnixWare:

UnixWare Personal Edition (CD ROM/Tape)	$175/210
UnixWare Personal Utility (CD ROM/Tape)	180/210
UnixWare Software Development Kit	420
UnixWare Application Server	910
UnixWare Server Merge for Windows	290
UnixWare TCP/IP & NFS	210
UnixWare Motif Development Tools	280
UnixWare Driver Development Tools	245

*** NETWORKING ***

SilverNet Starter Kit (the Fastest Peer-to-Peer Network)	$245
Novell Lite Starter Kit (2 Nodes)	240
Novell Netware	$BEST
8-Bit Arcnet Card (Star/Bus)	45/50
16-Bit Arcnet Card (Star/Bus)	60/65
NE-1000 Compatible 8-bit Ethernet Card (Novell Certified)	55
NE-2000 Compatible 16-bit Ethernet Card (Novell Certified)	60
Arcnet 8-Port Hub	120
10 BaseT 8 Port Hub	225
10 BaseT 12 Port Intelligent Hub	500
SMC (Western Digital) 8-bit Ethernet Card (Coax/10BaseT)	90/95
SMC (Western Digital) 16-bit Ethernet Card (Coax/10BaseT)	110/115
WD8003E 8-bit Compatible	75
SMC/3 COM/NE2000 16-bit Compatible Combo Board (BNC+AUI+10BaseT)	80
Pocket LAN Card	150
3 Com 3C503 Ethernet II	160
Token Ring Adapter 16/4 Mbs	425
8 Port Token Ring STP/UTP/MAU	345
8 Port Intelligent Multi-User Card (RS232)	299

486 UPGRADABLE LOCAL BUS SYSTEMS

486/66 MHz ISA/EISA	$1065/1180
486/50 MHz ISA/EISA	990/1110
486/33 MHz	840
486SX-33 MHz	730
486SX/25 MHz	635
IBM 486SLC2/66	860
IBM 486SLC2/50	770
386/40 MHz Non-Local Bus	545
386/33 MHz Non-Local Bus	540

- 256K Cache • 4 MB Toshiba or Hitachi 70ns RAM
- 1.2 MB & 1.44 MB Floppy Drives
- Local Bus IDE Controller w/2S/1P/1G Ports
- Keytronics 101 Key Enhanced Keyboard
- Mini-Tower or Desk Top Case w/200 W Power Supply
- PC Users Guide • P24T/Overdrive Socket Ready

ALL SYSTEMS GUARANTEED TO RUN UNIX, WINDOWS NT, OS/2, NOVELL, PICK

ONE YEAR PARTS, TWO YEAR MAINBOARD, THREE YEARS LABOR WARRANTY

MOTHERBOARDS

EISA Local Bus (2 Slot) 256K Cache	$230
ISA Local Bus (3 Slot) (Up to 128 MB On Board) 256K Cache	115
ISA Local Bus (2 Slot) 256K Cache	110
386/40 Motherboard & CPU 128K Cache	130

LOCAL BUS CONTROLLER CARDS

Local Bus IDE Controller	$36
Local Bus IDE Cache Controller (Up To 16 MB)	180
Forex Local Bus SCSI Controller (With HD & FD)	215
Ultrastor 34F SCSI Controller (With HD & FD)	280
Local Bus IDE Blager 10X Faster Than IDE	100

Video Card Options:

Accumose 512K VGA Card	$40
Trident 1 MB VGA Card	55
Tseng Labs ET4000 1 MB VGA Card Hi-Color	80
Diamond SpeedStar 24X	150
Diamond Stealth Pro VLB 1 MB VGA Card	250
ATI Graph Ultra 1 MB	200
ATI Ultra Pro Local Bus 2 MB	335
Orchid Fahrenheit VA 1 MB Local Bus	155
Local Bus Cirrus Logic 16 Million Colors	85
Local Bus ET4000 1MB VGA Hi-Color 16 Million Colors	95
Local Bus S3 Chip 1MB VGA Hi-Color 16M Colors	145
Local Bus ET4000/W32 1MB VGA Hi-Color 16 Million Color	125

Monitor Options:

14" Mono	$95
14" SVGA Mono (1024x768) (.28mm)	115
14" SVGA (.28mm)	265
14" NI SVGA (.28mm)	295
14" Relisys VESA NI SVGA (.28mm) 70Hz	310
14" ViewSonic NI SVGA (.28mm)	325
15" CTX NI SVGA (.28mm)	425
15" Hitachi SVGA (1024x768 .28mm)	480
15" NEC 4FG (1024x768 .28mm)	765
15" ViewSonic 15 (.28mm)	615
17" Samsung NI SVGA (.31mm)	755
17" Samsung NI SVGA (1280x768) (.26mm)	925

Hard Drive Options:

Conner 120 MB	$165
Conner 540 MB 12ms (IDE)	695
Fujitsu 520 MB 9ms (SCSI)	695
Fujitsu 1.2 GB 10ms (SCSI)	1050
Maxtor 245 MB 15ms (IDE)	245
Maxtor 340 MB 13ms (IDE)	325
Maxtor 1.2 GB 10ms (SCSI)	1050
Maxtor 1.7 GB 13ms (SCSI)	1195
Quantum 525 MB (SCSI)	750
Quantum 1.2 GB (SCSI)	1050
Micropolis 2.4 GB (SCSI)	2125
External SCSI Hard Drives-PC/SPARC/MAC	Add $100

MULTIMEDIA KIT

- SONY CD-ROM
- Gallant 16 Bit Sound Card
- Microphone
- Speakers
- 5 CD-ROM Titles

$399

- Bundled Software
  - *CD Player
  - *Karaoke Player
  - *Voyetra's Multimedia Utilities
  - *Midi Softs Window Utilities
  - *Monologue DOS & Windows

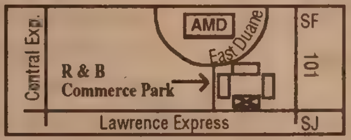
UNIX / NOVELL
LAN MANAGER
NETWORK
INSTALLATION /
MAINTENANCE
CALL

Some Of Our Satisfied Customers:

- AMD
- Cadence
- DCA
- Ford
- Fujitsu
- IBM
- ISSI
- Lockheed
- McDonald Douglas
- Microsoft
- Quantum
- Stanford Univ.
- Sony
- U.S. Postal Service
- Winbond

PromoX Systems

1050 East Duane Ave., Suite B
Sunnyvale, Ca 94086



Sparc registered trademark of Sparc Systems Inc.

Tel: (408) 733-2966
Fax: (408) 733-2968
E-Mail Address: promox@cup.portal.com
Hours: Mon-Fri 9-6 Sat 10-4
Prices Subject To Change W/O Notice

VISA

Calendar Of Events continued

7737 or 904-7738.

September 2 Intro To Lotus 1-2-3 Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 2 Intro To Networks Class. Oakland. California Computer Options. Call: (510)444-5700.

September 2 Intro To Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 2–3 PC Troubleshooting & Repair Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 3 Beginning DOS Class. Oakland. California Computer Options. Call: (510)444-5700.

September 3 Intermediate Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 3 NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 6 Advanced NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 7 Beginning Windows Class. Oakland. California Computer Options. Call: (510)444-5700.

September 7 Intro To Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 7–9 Intro To Word For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 7–9 Telecommunications: Techniques And Technologies Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 7–10 2D Microstation Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 7–30 Beginning WordPerfect 5.1 Class. Benicia. North Bay Bookkeeping and Business Services. Call: (707)746-8315.

September 7–October 26 Writing For Multimedia: New Horizons For Writers Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 8 Intermediate Word For Windows Class. Oakland. California Computer Options. Call: (510)444-5700.

September 8 Intro To Excel Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 8–October 27 Building A Multimedia Business: Developing A Business Plan And Getting Started Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 9 Build And Upgrade An IBM PC Clone Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 9 Intro To Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 9–10 CorelDraw 4.0 Course. Santa Clara. Goals of California. Call: 1-800-462-5763, ext. 6625.

September 9–10 Microsoft Publisher Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 9–October 21 Graphic Design For Multimedia On The Mac Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 10 Intro To Paradox Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 10 Windows 3.1 Beginners Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 10–11 How To Install, Grow, And Maintain A Project Management Culture Seminar. Santa Clara. UC Extension. Call: (408)427-6636.

September 11 Overview Of Multimedia Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 11 Telecommunications: Techniques And Technologies Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 11–25 Getting Started With MacroMind Director Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 11 & 25 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 12 Overview Of Multimedia Authoring Software Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 13 Beginning Excel Class. Oakland. California Computer Options. Call: (510)444-5700.

September 13 Intro To DOS Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 13–14 Asymetrix Toolbox For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 13–20 Intro To The PC For CAD Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 14 Build And Upgrade An IBM PC Clone Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 14 Intro To WordPerfect For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 14–16 Intermediate Word For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 14–17 Intro To AutoCAD For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 14–21 Intro To Data Communications Networks Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 15 Intermediate WordPerfect 5.1 Class. Oakland. California Computer Options. Call: (510)444-5700.

September 15 Intro To WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 15 Is AutoCAD For Windows For Me? Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 15–16 An Introduction To Networking PCs With Novell Seminar. San Francisco. Center for Advanced Professional Development. Call: (714)261-0240.

September 15–November 3 Intro To Applied Multimedia Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 16–17 CorelDraw 4.0 Course. Santa Clara. Goals of California. Call: 1-800-462-5763, ext. 6625.

September 16–17 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 16–November 18 Intermediate Interface Design: Designing Original Interfaces For Multimedia Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 17 Advanced Windows Class. Oakland. California Computer Options. Call: (510)444-5700.

September 17 Windows 3.1 Advanced Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 17 WordPerfect For The Legal Profession Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 18 Careers In Multimedia Class. San Francisco. SFSU Extended

Continued

AUTOCAD AT SF STATE

The only Autodesk Training Center™ in San Francisco

Autodesk
Training Center

Introduction to PC for CAD; Intro to AutoCAD (DOS & Windows format), and Intermediate AutoCAD; Customizing; 3D Features; Release 12 Update Training; AutoLISP; Animator Pro and 3D Studio: Call for application training.

SFSU
San Francisco State University
Extended Education
New Downtown Center
425 Market Street
1/2 block from Embarcadero BART/MUNI

New classes start weekly and monthly, scheduled for weekdays, evenings and weekends

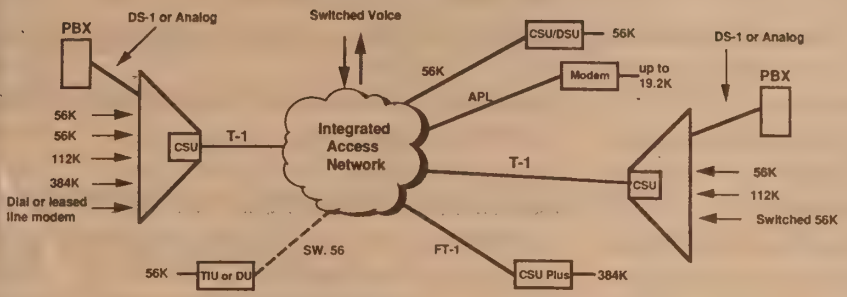
Call (415) 904-7710

NAC Knows NETWORKS!

Network Adapters

Addtron Ethernet Combo...	**$85**
•BNC, 10 Base T •Five-year Warranty	
Addtron Ethernet Xcvr.......	**$49**
•Thick to Thin or 10Base T	
Addtron POCKET size Ethernet.....	$185
Xircom POCKET E-net Combo......	$330
Xircom PCMCIA Ethernet..............	$290
Xircom PCMCIA E-net Combo.......	$315
T.C. Token Ring Combo......	**$369**
•16/4 mps, DB9 and Twisted Pair •Three-year Warranty	
Accton POCKET Token Ring 16/4..	$440
T.C. PCMCIA Token Ring 16/4.......	$615

Single Vendor Solution



$$We Save You Money$$

NetWare 4.0 is here!

Novell Gold Authorized Reseller

NetWare 4.0, 25 User	$3,275
NetWare 3.11, 20 User	$1,765

Upgrade to 3.11 now and receive 4.0 for only $300!

UNIX for PCs

FTP (B)	$457
SUN-PC/NFS (B)................................	$476
TCP Kernel...	$90
Hummingbird eXceed/W.....................	$411
XVision..	$364

UNIX for MACs

TCP/IP (B)	$411
NFS (B)..	$407
TCP/IP + NFS (B).................................	$645
Apple MacX..	$280

(B) Price includes Ethernet Card & SW

NW Cards & Equipment

3COM Etherlink III Coax................	$145
3COM Etherlink III TP......................	$143
SMC Ethercard Elite 16 Coax...........	$124
SMC Ethercard Elite 16 TP..............	$124
Asante Ethernet Card........................	$154
Dayna Etherprint...............................	$380
Intel NetPort II..................................	$575
Arcnet Kit w/AI or NW Lite.............	$290
Ether Kit w/AI or NW Lite...............	$390
1000' Cable..	$200
AMP BNC Male Conn (10-P)..............	$30
15' or 25' assembled cable..................	$20
IBM T.R. Patch Cable 8'......................	$18
Transceiver Cable 3'............................	$32
10Base T 9-Port Hub...........................	$285
10Base T 18-Port Hub.........................	$565
2-Port Ethernet Repeater.....................	$399
4-Port Ethernet Repeater	$599
8mm Tape Drive..................................	$1669
4mm DAT 2G Tape Drive..................	$1189

COMPAQ File Server

You need a real file server!

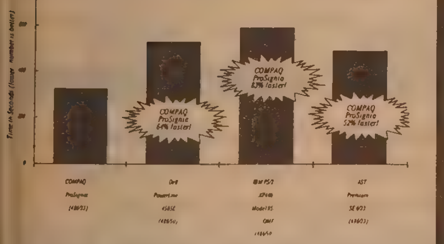
A personal computer steroided with a large chassis, big drives, rich memory, and multiple cards is still a "personal" computer. To be used as a network file server, it can function but hardly produce. Architectures are different. Compaq has the real server, so you know, but you also doubt if it's for you...

Think you can't afford a Compaq server?

Think again.

- •486/33 EISA, 24M
- •Compaq Fast SCSI-2 host adapter
- •Compaq Netflex 32-bit EISA NIC
- •3-year on-site service for the above items
- •1G SCSI-2 hard disk (12ms)
- •VGA monochrome monitor
- •Fully installed with NetWare and tested

$5,685



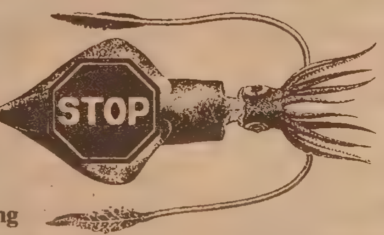
WE EASE YOUR CONNECTIVITY

PLATFORM	PROTOCOL	TRANSMISSION
PC/DOS WINDOWS	NETWARE/IPX	TOKEN RING
MACINTOSH	TCP/IP	FDDI
IBM RS6000	NFS	T1/FT1/Switched 56K
DEC VAX	X-WINDOW	FRAME RELAY
DEC RISC	DEC PATHWORKS	ISDN
SPARC SUN-OS	APPLETALK	DIAL-UP

NAC is authorized by the following system vendors:
IBM RS6000, DEC VAX/RISC, AXIL, COMPAQ, HP, APPLE

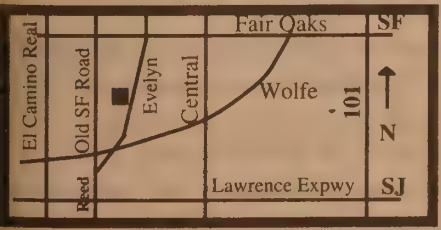
YOU NEED STRONG HANDS ....Not finger pointing

- •Enterprise Network Design
- •Cabling System Design
- •System Administration
- •System Management
- •Equipment Installation
- •Application Installation
- •Cable Installation
- •System Administration Training
- •Application Software Training
- •Network System Trouble-Shooting
- •On-Site Hardware Trouble-Shooting
- •Telephone Support
- •Maintenance Contract
- •Carry-In Hardware Repair



NAC Engineering & Service Department is composed of veterans in UNIX, Windows, Macintosh, WAN, and a group of CNEs.

LANtastic™ ARTISOFT INC. DAVID SYSTEM COMPAQ WOLLONGONG FTP NOVELL digital™ Microsoft HEWLETT PACKARD Authorized Dealer intel Authorized Dealer SMC SCO THE SANTA CRUZ OPERATION 3Com



Network Associates Corporation

(408) 733-2600 ext 333

FAX (408) 733-4268

720 E. Evelyn Ave., Sunnyvale, CA 94086-6526

Not responsible for typographic errors. Subject to stock on hand. Prices subject to change

Calendar Of Events continued

Education. Call: (415)904-7700.

September 20 Automating Your Accounting And (Contact) Management Software Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 20 QuickMail Administrator Level I Course. Berkeley. Network Frontiers. Call: (415)644-9400.

September 20–21 PC Troubleshooting & Repair Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

September 20–22 Novell Advanced System Administrator 3.11 Class. Oakland. California Computer Options. Call: (510)444-5700.

September 21 Intermediate WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 21 QuickMail Administrator Level 2 Course. Berkeley. Network Frontiers. Call: (415)644-9400.

September 21–23 Word For Windows Style Templates And Macros Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

September 21–24 Intermediate AutoCAD Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 22 Intermediate Paradox For DOS Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 22 Managing AppleShare Course. Berkeley. Network Frontiers. Call: (415)644-9400.

September 23 Backup Management Course. Berkeley. Network Frontiers. Call: (415)644-9400.

September 23 Intermediate Excel Class. Oakland. California Computer Options. Call: (510)444-5700.

September 23 Intermediate Word For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 24 Intermediate Lotus 1-2-3 Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 24 Windows For Workgroups Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

September 27 Beginning Lotus Class. Oakland. California Computer Options. Call: (510)444-5700.

September 28 Intermediate Lotus Class. Oakland. California Computer Options. Call: (510)444-5700.

September 28 Intermediate WordPerfect For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 28–October 1 Intro To AutoCAD For DOS Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

September 29 Intermediate Excel For Windows Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 30 Advanced WordPerfect Class. Walnut Creek. Computer Education Center. Call: (510)937-2566.

September 30–October 1 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

OCTOBER

October 1 Microsoft Access And FoxPro For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

October 1 NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 2 Build And Upgrade An IBM PC Clone Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 4 Advanced NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 4–5 PC Troubleshooting & Repair Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 5–8 Customizing AutoCAD Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

October 6–8 FoxPro For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

October 8 Windows 3.1 Beginners Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 9–10 Intro To The PC For CAD Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

October 9 & 16 PC Troubleshooting & Repair Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 12–13 Intro To Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

October 13 AutoCAD Information Session Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

October 14–15 Intermediate Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

October 14–15 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 15 Windows 3.1 Advanced Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 15–29 Access For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7700.

October 16–17 Intro To AutoCAD For Windows Class. San Francisco. SFSU Extended Education. Call: (415)904-7737 or 904-7738.

October 18 Automating Your Accounting And (Contact) Management Software Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 18–19 PC Troubleshooting & Repair Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 21–22 CorelDraw 4.0 Course. Santa Clara. Goals of California. Call: 1-800-462-5763, ext. 6625.

October 22 Windows For Workgroups Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

October 23 Build And Upgrade An IBM PC Clone Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

October 25–26 Adobe Photoshop 2.5 Workshop. Sacramento. Graphic Communications Assoc. Call: (703)519-8160.

October 28–29 Local Area Networks: LANtastic To Novell Seminar. Oakland. Excel Micro Solutions. Call: (510)836-2040.

NOVEMBER

November 5 NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

November 8 Advanced NetWare System Administrator 3.11 Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

November 12 Windows 3.1 Beginners Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

November 19 Windows 3.1 Advanced Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

November 22 Automating Your Accounting And (Contact) Management Software Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

November 26 Windows For Workgroups Seminar. Emeryville. Informational Data Networks. Call: 1-800-696-5267.

Save Time And $$ At MarketPro Shows
The COMPUTER Products SUPERSTORE Show & Sale At Your Door
Hours 10-5pm

Sun. Aug. 22 - SACRAMENTO
Scottish Rite Center
Sat. Aug. 28 - VALLEJO
Solano Co. Fairgrounds
Sun. Aug. 29 - SAN RAFAEL
Marin Civic Center
Sat. Sept. 11 - SANTA ROSA
Sonoma Co. Fairgrounds
Sat. Sept. 18 - VALLEJO
Solano Co. Fairgrounds
Sun. Sept. 19 - CONCORD
Centre Concord

NEW Hardware • Software • Peripherals • Accessories • CD Roms
Admission $6 • FREE With Membership • For Other locations (415)388-8893
Software from $3 • Disketts from 29¢ DD/DS • Highest Quality • Huge Selection
SAVE UP TO 90% ON ALL Your Computer Needs!

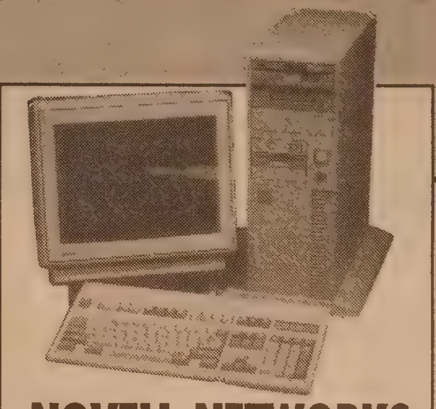
COMTEK Computer

COMPLETE SYSTEMS or BUILD YOUR OWN!

SALE!
486DLC/33/128K
$175

COMING SOON
CONCORD

- Build your own computer and save!
- Upgrade and repair your own computer at our centers
- One year warranty on parts and labor
- We offer the best quality, best service and lowest price



NOVELL NETWORKS
(415) 424-8151

AMERICAN MOTHERBOARD

NICE

486-33/DX2-66 256K VLB	$489/729
486-50/DX2-66 256K Mini EISA VLB	$699/799

AIR

486-33/DX-66 256K, 3 VLB Slots	$519/745
486-50 256K, 3 VLB Slots	$675
486-33/DX-66 256K EISA, 3 VLB Slots	$725/969

ORCHID

486-33/DX2-66 256K VLB	$509/753
486-50/256K VLB	$665

IBM

486SLC-50 64K Cache ISA	$356

COMPUTER SYSTEM	IDE HARD DRIVE 80MB	120MB	210MB
486DX66/128K	$1445	$1469	$1529
486DX50/128K	1375	1399	1459
486DX33/128K	1225	1239	1299
486SLC50/64K	1195	1219	1289
486DLC33/128K	1005	1029	1089
386DX40/128K	965	989	1049

SYSTEM CONFIGURATION
- 4MB RAM
- 1.44 TEAC
- 1.2 TEAC
- Minitower
- 200 w/PS
- 101 Keyboard
- IDE 2FD, 2HD
- SVGA .28 Monitor
- SVGA w/1MB
- 2S, 1P, 1G

VESA LOCAL BUS SPECIAL

486/33/256K

$1409

- 4MB RAM
- 210MB Hard Drive
- SVGA Monitor .28dp NI
- VL Bus Video w/1MB
- 1.2 & 1.44 TEAC Floppy Drive
- VL Bus IDE Controller
- 2S, 1P, 1G
- Mini Tower Case
- 101-KeyKeyboard

486DX66	$1669
486DX50	$1569

MOTHERBOARD

486DX/66/128K VL Bus	$649
486DX/50/128K VL Bus	575
486DX/33/128K VL Bus	419
486DX/33/128K ISA	389
486DLC/33/128K	179
386DX/40/128K ISA	155
486SLC/50/64K	355

MONITOR

SVGA (1024x768) .28	$255
SVGA (1024x768) .28 Non-Int	279
SVGA Viewsonic 4E	309
SVGA Viewsonic 6E Non-Int	329
SVGA Viewsonic 6FS	559
SVGA Viewsonic 15 Non-Int	655
SVGA Viewsonic 17 Non-Int	980
SVGA Sony 1604 .26	999
MAG 15F/17F	580/1079
NEC 3FG/4FG	639/739
SVGA 17"	799

- 100% Financing with 90 Day Free Interest
- Accept Visa and Mastercard
- Price Subject to Change without Notice
- Dealer Inquiries Welcome
- Not Responsible for Typographical Errors
- Prices based on Cash Prices

VIDEOCARD

Cirrus Logic w/1MB True Color	$55
Trident 1MB	57
Tseng ET4000	85
Diamond Stealth VL Bus w/1MB	179
Orchid Fahrenheit VL Bus w/1MB	179
Genoa 8500 VL Bus w/1MB	125
ATI Pro VL Bus w/2MB	349
Orchid Celsius VL Bus w/2MB	319
Orchid P9000 VL Bus w/2MB	345
AIR P9000 VL Bus w/2MB	385
Spider VL Bus	CALL

CASES

Mini Tower	$53
Medium Tower	83
Baby AT	75
Full Tower	105

MODEMS & FAXES

Zol 2400 Baud	$39
Zol 96/24 Modem & Fax w/Win	59
Zoltrix 14.4 Modem & Fax	175

HARD DRIVES

CONNER		
CP30084E	80MB IDE	$160
CP30104	120MB IDE	$179
CP30204	213MB IDE	249
CP30254	250MB IDE	269
CP3544	540MB IDE	760
CP3540	540MB SCSI	779
MAXTOR		
7120A	130MB IDE	$199
7213A	213MB IDE	239
7245A	240MB IDE	255
7345A	345MB IDE	339
LXT535A	535MB IDE	659
LXT340S	340MB SCSI	395
LXT535S	535MB SCSI	689
PO125	SCSI 1.2GB	999

KEYBOARD

Chicony	$23
Keytronic USA	40
Maxi Switch	35
Omnikey 102/Ultra	89/99
Focus	40

CONTROLLERS

IDE w/IO	$20
IDE VL Bus w/IO	55
SCSI-2 VL Bus (AIR)	285
SCSI VL Bus (Bustek) 545S	CALL
SCSI VL Bus (Ultrastor) 34F	CALL

MULTIMEDIA & CD ROM

Sound Blaster	$95
Sound Blaster Pro Basic	149
Sound Blaster 16ASP	239
Pro Audio Spectrum w/SCSI	185
Multimedia Upgrade Kit w/SW	499
CD ROM 31A	265
CD ROM Toshiba 3401B	475

MOUSE

Microsoft Compatible	$15
Microsoft Serial	49
Microsoft Bus	69
Logitech MouseMan	49

SIMMS & MATH

1MB SIMM	$55
4MB SIMM	185
512KBx36 SIMM (72 pins)	105
1MBx36 SIMM (72 Pins)	185
4MBx36 SIMM (72 Pins)	CALL
Other	CALL

PALO ALTO

3527 El Camino Real
Palo Alto, CA 94306
(415) 424-8151

DUBLIN

6602 Dublin Blvd.
Dublin, CA 94568
(510) 803-1530

SAN BRUNO

1778 El Camino Real
San Bruno, CA 94066
(Between Millbrae & San Bruno Ave.)
(415) 225-0153
Open Sunday

SANTA CLARA

5029 Stevens Creek Blvd.
Santa Clara, CA 95051
(408) 249-4297
Open Sunday

VISA

HI-TECH USA

(408) 262-8688 Milpitas
(415) 508-8688 San Carlos

SYSTEM	M/B + CPU	* BASIC SYSTEM	BASIC SYS +40MB HDD + 14" MONO & MGP CARD	BASIC SYS + 40MB HDD + VGA CARD & MONITOR	BASIC SYS + 40MB HDD + SVGA CARD & MONITOR	BASIC SYS +80MB HDD + SVGA CARD & MONITOR	BASIC SYS +120MB HDD + SVGA CARD & MONITOR	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +120MB HDD +SVGA CARD & MONITOR	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +170MB HDD +SVGA CARD & MONITOR	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +200MB HDD +SVGA CARD & MONITOR	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +250MB HDD +SVGA CARD & MONITOR	BASIC SYS W/4MB RAM 1.2 & 1.44 FDD +340MB HDD +SVGA CARD & MONITOR
486SLC2-66/64C VLB	$348	$518	$708	$808	$838	$884	$896	$1,118	$1,138	$1,168	$1,198	$1,258
486SLC2-50/64C VLB	294	464	654	754	784	830	844	1,064	1,084	1,114	1,144	1,204
486DX2-66/128C VLB	558	728	918	1,018	1,048	1,094	1,108	1,328	1,348	1,378	1,408	1,468
486DX-50/128C VLB	508	678	868	968	998	1,044	1,058	1,278	1,298	1,328	1,358	1,418
486DX-33/128C VLB	368	538	728	828	858	904	918	1,138	1,158	1,188	1,218	1,278
486DX2-66/128C EISA	598	768	958	1,058	1,088	1,134	1,148	1,368	1,388	1,418	1,448	1,508
486DX-50/128C EISA	548	718	908	1,008	1,038	1,084	1,098	1,318	1,338	1,368	1,398	1,458
486DX-33/128C EISA	408	578	768	868	898	944	958	1,178	1,198	1,228	1,258	1,318
486DX2-66C ISA	518	688	878	978	1,008	1,054	1,068	1,288	1,308	1,338	1,368	1,428
486DX-64C ISA	494	654	844	944	974	1,020	1,034	1,254	1,274	1,304	1,334	1,394
486DX2-50C ISA	398	568	758	858	888	934	948	1,168	1,188	1,218	1,248	1,308
486DX-33C ISA	318	488	678	778	808	854	868	1,088	1,108	1,138	1,168	1,228
486DLC-40/64C ISA	178	348	538	638	668	714	728	948	968	998	1,028	1,088
486DLC-33/64C ISA	144	308	498	598	628	674	688	908	928	958	988	1,048
486SX-33C ISA	188	358	548	648	678	724	738	958	978	1,008	1,038	1,098
486SX-25C ISA	128	294	484	584	614	660	674	894	914	944	974	1,034
386DX-40/64C	108	274	464	564	594	640	654	874	894	924	954	1,014
386SX-40	78	248	438	538	568	614	628	848	868	898	928	988
386SX-33	68	234	424	524	554	600	614	834	854	884	914	974

*** BASIC SYSTEM CONFIGURATION:** Motherboard & CPU, 1MB memory installed, 1:1 2HD/2FD controller with 2S/1P/1G, 1.2MB or 1.44MB Floppy Drive, Internal Clock/Calendar, Enhance Case with Power Supply, and 101-Key Enhanced Keyboard.

Super Sale – Best Prices in Town!

DELUXE SYSTEMS

386SX-33	$878
386SX-40	888
386DX-40/64K	908
486SX-25/64K	968
486SX-33/64K	1,018
486DLC-33/64K	938
486DLC-40/64K	968
486DX-33/64K	1,148
486DX-40/64K	1,158
486DX2-50/64K	1,208
486DX-50/64K	1,278
486DX2-66/64K	1,338
486 DX-33/128K EISA	1,198
486DX-50/128K EISA	1,328
486DX2-66/128K EISA	1,398
486SLC2-50/64K VLB	1,098
486SLC2-66/64K VLB	1,148
486DX-33/64K VLB	1,158
486DX-50/64K VLB	1,288
486DX2-66/64K VLB	1,348

SYSTEM CONFIGURATION

- Motherboard w/CPU
- 4MB RAM 70NS
- 170MB Fast Hard Drive
- 1.2MB and 1.44MB Floppy Drive
- IDE 2HD/2FD Controller w/2S/1P/1G
- 512KB SVGA Card
- 14" SVGA .28 Color Monitor
- 101-Key Enhanced Keyboard
- Enhanced Case w/Power Supply

OPTIONS

• 120MB Hard Drive	Less $20
• 200MB Hard Drive	Add $30
• 250MB Hard Drive	Add $60
• 340MB Hard Drive	Add $120
• 14" Non-Interlaced Monitor	Add $30
• 15" Non-Interlaced Monitor	Add $120
• VLB IDE Controller	Add $30
• 16BIT SVGA Card w/1MB	Add $20
• Window Accelerator w/1MB	Add $30
• Orchid Fahrenheit 1280	Add $110
• Diamond S.S. Pro VLB w/1MB	Add $70
• Orchid Fahrenheit VLB w/1MB	Add $120
• 250MB Tape Back-up	Add $140
• 16BIT Ethernet Card	Add $50
• Deluxe Speakers	Add $10
• Sony CD-ROM	Add $170
• Sound Blaster Pro Deluxe	Add $118
• CD ROM Upgrade Kit	Add $360

EISA (VLB) SCSI SYSTEMS

486DX-33/128K	$1,628
486DX2-50/128K	1,698
486DX-50/128K	1,768
486DX2-66/128K	1,828

SYSTEM CONFIGURATION

- Intel Pentium Technology Ready
- Nice Motherboard w/4MB RAM
- 200MB SCSI Hard Drive
- EISA SCSI Contoller
- 2S/1P/1G Ports
- 1.2MB & 1.44MB Floppy Drive
- Window Accelerator w/1MB
- 14" SVGA .28 Color Monitor
- 101-Key Enhanced Keyboard
- Enhanced Case w/Power Supply

OPTIONS

• 1.2GB SCSI Hard Drive	Add $620
• 14" Non-Interlaced Monitor	Add $30
• Viewsonic 6E Monitor	Add $60
• Diamond S.S. Pro VLB w/1MB	Add $60
• Orchid Fahrenheit VLB w/1MB	Add $100
• Sound Blaster Pro Deluxe	Add $118
• 250MB Tape Back-up	Add $140
• Sony CD-ROM	Add $170
• CD ROM Upgrade Kit	Add $360

VESA DELUXE SYSTEMS

ORCHID / DIAMOND VLB

486DX-33/256K	$1,618
486DX-50/256K	1,758
486DX2-66/256K	1,818

SYSTEM CONFIGURATION

- Orchid or Diamond VLB M/B
- Orchid or Diamond VLB w/1MB
- VLB IDE Controller w/2S/1P/1G
- 4MB RAM Expandable to 128MB
- 212MB Fast Hard Drive
- 1.2MB Floppy Drive
- 1.44MB Floppy Drive
- 15" Non-Interlaced Monitor
- Northgate Omni 101NI Keyboard
- Medium Tower Case w/PS

OPTIONS

• 170MB Hard Drive	Less $20
• 250MB Hard Drive	Add $30
• 340MB Hard Drive	Add $90
• 540MB Hard Drive	Add $350
• 17" Non-Interlaced Monitor	Add $320
• Sound Blaster Pro Deluxe	Add $118
• 250MB Tape Back-up	Add $140
• Sony CD-ROM	Add $170
• CD ROM Upgrade Kit	Add $360

Why do smart customers keep buying from HI-TECH USA? Simply because we deliver the best values.

Call and join our smart customer list: ABC, ADAPTEC, ALLIED SIGNAL, AMD, AT&T, CIRRUS LOGIC, DATAQUEST, FLORIDA STATE UNIVERSITY, GENERAL ELECTRIC, IIT, INTEL, LAWRENCE LAB, MAXTOR, NASA, NATIONAL SEMICONDUCTOR, PG&E, QUANTUM CORP, SEAGATE TECHNOLOGY, SIERRA SEMICONDUCTOR, STANFORD UNIVERSITY, SUN MICROSYSTEMS, U.C. BERKELEY, WESTERN DIGITAL, YALE UNIVERSITY, and many, many more.

HI-TECH USA — WIDE CHOICES AT LOW PRICES

CASE WITH POWER SUPPLY

Mini Tower Case w/200W Power Supply	$48
Desktop AT Case w/200W Power Supply	50
Medium Tower Case w/230W Power Supply	78
Full Tower Case w/250W Power Supply	98

CD-ROM / MULTIMEDIA

Creative Labs	
MIDI Kit	$40
Sound Blaster	62
Sound Blaster Pro	102
Sound Blaster Pro Deluxe	114
Sound Blaster 16 ASP	193
CD ROM Upgrade Kit	358
Discovery CD 8 Upgrade Kit	378
Discovery CD 16 Upgrade Kit	448
Edutainment CD 8 Upgrade Kit	458
Edutainment CD 16 Upgrade Kit	498
Mitsumi CD-ROM (350MS)	174
NEC CD-ROM 84 / 74 (Int./Ext.)	409 / 559
SONY CD-ROM 31A	164
TEXEL	
DM3024N (SCSI) Internal	348
DM5024 (SCSI) External	448
Toshiba XM-3401B (200ms)	398
Trantor SCSI Host w/Driver	78
Audio Pak (Sound Card, Speaker, Joystick, Earphone)	60
Deluxe Speakers	10

CD SOFTWARE TITLES

American Bus Phone Book-1992	20
Animals v1.0 DOS	17
Annabel's Dreams-Egypt	67
Arthur's Teacher Trouble	23
Atlas Pak v3.1 World/US	22
Authorware Star for Windows	48
Barron's College Guide	22
Battle Chess DOS	16
Beyond the Wall of Stars	22
Beauty & Beast MPC	14
Bring the World to Your Senses	13
Campton's Family Encyclopedia	60
Campton's Encyclopedia MPC	60
Carmen San Diego DOS	21
CD Game Pack II DOS	20
CD Storytime DOS	16
Chess master 3000 MPC	17
CIA World Fact Book DOS	17
Composer Quest MPC	28
Desert Storm MPC/MAC	19
Dictionary of the Living World	25
Dinosaur Adventure	22
Family Choice/Britannica DOS	19
Family Doctor DOS/MAC	19
Family Education Collections DOS	19
Great Cities-Vol 1 DOS	19
Great Cities-Vol 2 DOS	19
Guinness Disk of Records MPC	19
Jets & Props MPC	19
Jones in Fast Lane MPC	16
Killer Truck CD-Music Library	18
King's Quest V DOS	16
Kodak Photo CD Access	18
Language of the World	30
Library of Future 1st DOS	45
Loom From Lucas Film DOS	16
Lotus 123 v3.1 MPC	78
Macmillan Dictionary For Children	28
Macromedia Action for Windows	26
Mantis Experimental Fighter	16
Mario is Missing/World Atlas 3.2	18
Mavis Teaches Typing MPC	18
Mayo Clinic Family Health	18
Media Clips - 4 Pk MPC/MAC	38
Microsoft Bookshelf MPC	50
Microsoft Works MPC	50
MIDI Music Shop	19
Mixed-up Mother Goose MPC	18
Monkey Island DOS	18
MPC Audibon's Birds	16
National Geographic Mammals DOS	22
National Park	19
Ocean Digital Imagery VI DOS	22
PC-SIG 11th ED DOS	18
PC SIG 12th Edition	28
Peter & Wolf MPC	15
Playing with Language (English)	24
Playing with Language (French)	24
Playing with Language (German)	24
Playing with Language (Japanese)	24
Playing with Language (Spanish)	24
Presidents DOS	68
Publish It 2.0 DOS	22
Renaissance Masters II	28
Secret Weapons/Luftwf DOS	16
Sherlock Holmes DOS	16
Sleaping Beauty	18
So Much Shareware I DOS	11
So Much Shareware II DOS	15
Sound Library MPC	14
Space Adventure	23
Space Quest IV By Sierra DOS	23
Sport's Best (3 in 1) DOS	18
Stellar 7 DOS	16
Survey of Western Art MPC	24
Tempra Access Photo CD	16
The Right College	25
The Shareware Concept	15
Time Almanac 1991 DOS	18
Time Table of History DOS	16
Tool Works Reference Library	18
Tool Works Encyclopedia MPC	44
Total Baseball DOS/MAC	24
US Atlas v3.1 MPC	15
US Atlas & Automap DOS	22
US History DOS/MAC	23
USA Wars: Civil War DOS/MAC	28
USA Wars: Vietnam DOS/MAC	28
USA Wars: WW II DOS/MAC	28
USA Wars: Korea	28
Whale of Tale	68
Wild Places DOS	12
Willy Bearnish The Adventure	18
Wing Command & Ult VI DOS	22
Wizard PC/MAC	13
World Atlas v3.2 MPC	15
World View DOS	13

CONTROLLERS

IDE 2FD/2HD with 2S/1P/1G	$13
IDE with I/O for VESA Local Bus	38
Adaptec	
1542C (SCSI)	188
1542CK w/Kit (SCSI)	232
1742A EISA (SCSI)	338
2742TA EISA (SCSI)	368
Asus EISA SCSI (Cache Expandable to 16MB)	268
BusLogic 742A EISA (SCSI)	268
BusLogic 445S VLB (SCSI)	268
DTC 2090 EISA IDE	124
DTC 2280 ISA IDE	20
DTC 2270 VLB IDE	98
DTC 3290 EISA SCSI	448
Promise DC-200 IDE Cache Controller	98
Promise DC-4030 VLB IDE Cache Controller	148

HARD DRIVES

40MB 25MS / 80MB 19MS IDE	$99 / 144
120MB 19MS /130MB 15MS IDE	154 / 164
170MB 17MS / 212MB 15MS IDE	168 / 194
250MB 15MS / 340MB 12MS IDE	220 / 278
420MB 12MS / 540MB 12MS IDE	398 / 538
212MB 15MS SCSI	248
340MB 13MS SCSI	388
520MB 12MS SCSI	568
877MB 12MS SCSI	768
1.2GB 13MS SCSI	868
1.7GB 13MS SCSI	1,138

KEYBOARDS

Focus	
FK2001 101-Key Click	$36
FK9000 Programmable w/Calculator.	58
Keytronics 101-Key Enhanced	30
Mitsumi 101-Key Enhanced	17
Maxiswitch 101-Key Enhanced	28
Northgate	
OMNI 101 NI / 102	62 / 62
OMNI Ultra T or F	84

MATH COPROCESSORS

387DX-40	$58
387DX-33	56
387SX-33	54
387SX-25	52

MODEMS & FAXES

2400 Modem (w/9600 Send Fax)	$26
Fax Modem (9600 Fax/2400 Modem)	42
Fax Modem (14,400 Fax/14,400Mdm)	128
Pocket Fax Modem (14,400/14,400)	204
Hayes	
Accura 14400 Fax Modem Int	228
Accura 14400 Fax Modem Ext	248
Optima 14400 Fax Modem	368
US Robotics	
Sportster 9600 Modem Int	144
Sportster 14400 Modem Int	148
Sportster 14400 Modem Ext	168
Sportster 14400 Fax Modem Int	158
Sportster 14400 Fax Modem Ext	176

MONITORS

14" Mono Amber	$82
14" VGA Mono	108
14" VGA (640•480) .51	174
14" Super VGA 1024•768 .39	194
14" Super VGA 1024•768 .28 Int	228
14" Super VGA 1024•768 .28 NI	248
15" Super VGA 1280•768 .28 NI	348
17" Super VGA 1280•768 .26 NI	668
ADI	
4G 15" 1280•1024 .28	414
CTX	
14" Super VGA 1024•768 .28 Int	248
14" Super VGA 1024•768 .28 NI	266
CMS1561 15" 1024•768 .28 NI	378
CMS1561LR 15" 1024•768 .28 NI	398
CPS1760 17" 1280•1024 .28 NI	708
CPS1760LR 17" 1280•1024 MPR II	798
Hitachi	
CM1584MV 15" 1280•1024 .28 NI	508
CM2095 20" 1280•1024 .28 NI	1,284
CM2187M 21" 1600•1280 Microp	2,088
MAG	
MX15F 15" 1280•1024 .28 NI	505
MX17F 17" 1280•1024 .26 NI	918
NANAO	
F340IW 15" 1024•768 .28 72Hz	654
F550I 17" 1280•1024 .28 NI	1,000
F550IW 17" 1280•1024 .28 75Hz	1,068
T560I 17" 1280•1024 .26 TRIN	1,638
T660I 20" 1280•1024 .31 72Hz	2,418
F750I 21" 1280•1024 .31 NI	2,048
NEC	
3FGe 15" 1024•768 .28 NI	574
4FGe 15" 1024•768 .28 NI	674
5FGe 17" 1024•768 .28 NI	1,068
6FG 21" 1280•1024 .28 NI	2,298
SONY	
1304S 14" 1024•768 .25NI	516
1430 14" 1024•768 .25 NI	564
1604S 17" 1024•768 .25 NI	888
1730 17" 1024•768 .25 NI	968
VIEWSONIC	
4E 14" 1024•768 .28 Int	264
5E 14" 1024•768 .28 NI	356
5+ 14" 1024•768 .25 NI	448
6E 14" 1024•768 .28 NI	284
7 17" 1280•1024 .28 NI	868
15 15" 1280•1024 .28 NI	498
17 17" 1280•1024 .28 NI	1,046
20 20" 1600•1280 .28 NI	1,648
20 21" 1600•1280 .29 NI	1,998

MOUSE

3-Button Microsoft Compatible	$9
Logitech	
Cordless	84
Mouseman Serial/Bus	50 / 58
Trackman	74
Scanman 256	248
Microsoft Mouse	40

NETWORK

8 BIT Ethernet Cards (NE1000 Compatible)	$44
16 BIT Ethernet Cards (10 Base-T/Coax)	48
16 BIT Ethernet Cards (3-in-1 Combo)	56
16 BIT Ethernet Cards (Pocket for Notebook)	148
16 BIT Busmaster (NE2100 Compatible)	88
ANSEL	
P-NS2000-BA 10 Base-2 & AUI	98
P-NS2000-TA 10 Base-T & AUI	88
P-NS2000-3 10 Base-T & 2 & AUI	118
ARCnet	
4-Port Passive Hub	15
8-Port Active Hub	118
Bus Topology 8 BIT ISA Card	48
Bus Topology 16 BIT ISA Card	58
Star Topology 8 BIT ISA Card	48
Star Topology 16 BIT ISA Card	58
BootROM	
8 BIT or 16 BIT Auto Boot PROM	15
Hubs and Repeaters	
4-Port 10 Base T HUB	148
6-Port 10 Base T HUB	208
12-Port 10 Base T HUB	438
Daughter Card, 4 Additional RJ45 Ports	68
Daughter Card, BNC+AUI Ports	58
2 BNC Ethernet Repeater	198

PRINTERS

Citizen	
GSX-190 (9-Pin)	$158
GSX-230 / GSX-240 (24-Pin) Quiet	248 / 298
GSX-145 (24-Pin) Wide	378
Color Option for Citizen Printers	48/68
Panasonic	
KX-P1123 (24-Pin)	169
KX-P1124I (24-Pin)	239
KX-P1624 (24-Pin) Wide	348
KX-P2180 (9-Pin)	158
KX-P2023 (24-Pin) Quiet	198
KX-P2123 (24-Pin) Color Capacity	219
KX-P2124 (24-Pin) Color Capacity	318
KX-P2624 (24-Pin) Quiet Wide	378
Color Upgrade Kit KX-PCK11	48

TAPE BACKUP

Archive 250MB Int	$138
Colorado	
DJ-10 Tape Back-up 120MB	134
DJ-20 Tape Back-up 250MB	168
KE-9 Ext. Kit for DJ-10/Dj-20	64
Tape QIC-80 3M DC2120	18
JT-10 Trakker 120MB Ext	288
JT-20 Trakker 250MB Ext	338
PT-25 Power Tape 2.4GB Int	968
PT-50 Power Tape 4GB Int	1,488

VGA CARDS

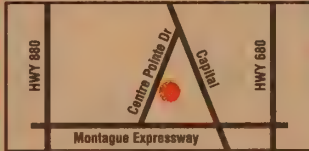
VGA256K / SVGA 512K 16 BIT	$25 / 35
SVGA 1MB 1024•768 16 BIT	54
Window Accelerators w/1MB	56
Cirrus Logic VLB w/1MB	88
ATI	
Graphics Ultra 1MB w/Mouse	164
Graphics Ultra Plus 2MB	236
Graphics Ultra Pro 2MB (ISA)	314
Graphics Ultra Pro 2MB (VLB)	316
Graphics Ultra Pro 2MB (EISA)	358
Diamond	
Speed Star Pro 1MB (ISA / VLB)	108
Stealth 24 VLB 1MB	154
Stealth Pro VLB 1MB (VRAM)	268
Stealth Pro VLB 2MB (VRAM)	338
Viper VLB 2MB	364
Genoa	
8500 VLB 1MB	98
Number Nine (#9)	
Level 10 (ISA)	298
Level 11 (ISA / VLB)	364
Level 12 (ISA / VLB)	434
Orchid	
Fahrenheit 1280 Plus 1MB (S3-801)	138
Fahrenheit VLB 1MB (S3-805)	144
Fahrenheit VA 1MB (S3-801)	140
Fahrenheit VA VLB 1MB (S3-805)	158
P9000 VLB w/3MB	338

HOURS: Monday - Friday: 8am to 6pm / Saturday: 10am to 4pm

TERMS AND CONDITIONS

1. One year parts and labor warranty on systems.
2. Knowledgeable technical support engineers in service.
3. Prices and availability subject to change w/o notice.
4. Shipping, insurance and COD charges are extra and non-refundable. Prices reflect cash discounts.
5. Return shipping must be insured, prepaid and bearing an RMA# on the shipping label.
6. Defective items replaced or repaired at our discretion.
7. No responsible for typos.
8. All returns subject to 15% restocking fee and cover only Hi-Tech USA brand computers, excludes peripherals and software. No refunds after 30 days.
9. Superior reputation for service, quality and value.
10. Purchase orders are welcomed and subject to approval.

SOUTH BAY



Phone (408) 262-8688
1558 & 1562 Centre Pointe Drive
Milpitas, CA 95035 Fax (408) 262-8772

HI-TECH USA

PENINSULA

Holly
El Camino Real
Industrial Road
US 101
Whipple Ave

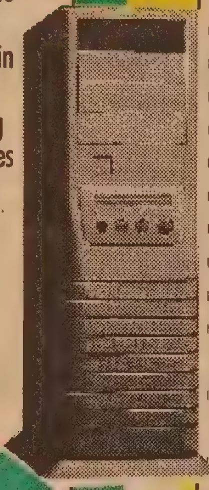
Phone (415) 508-8688
981B Industrial Road
San Carlos, CA 94070 Fax (415) 508-0383

WORLD-NET MICROSYSTEMS WEEKLY COMPUTER SPECIALS

Networking Services

At World-Net Microsystems we are qualified to service your networking needs. Our staff of highly educated professionals have degrees in Computer Engineering, Masters in Computer Engineering, and are CNE Novell Engineering certified. We can provide Networking services whether you purchase the hardware from us or not. We provide the following services:

- Free Consultation
- Custom Configuration
- Complete Turn Key Solution
- Custom Installation and Cabling
- Network Management
- Complete Technical Support



Networking Software

Netware Lite $69

Lantastic AI/5.0 ...$89

Novell Version 3.11
5 Users $635
10 Users 1555
20 Users 2155

Networking Products

Novell 2 Station Starter Kit..... *$199*

Lantastic 2 Station Starter Kit.................... *$299*

Including:
- 2 Copies of Novell Lite or LANtastic
- 2 NEC2000 16 bit Ethernet Adaptors
- 2 50 Ohm Cable Terminators
- 1-25 foot cable
- **Novell Additional Users.................$99**
- **Lantastic Additional Users 145**

SUPER SALE

Ethernet Cards

16 bit NE2000	$49
16 bit NE2000 Twist Pair	49
8 Ports Concentrator	240
16 Ports Concentrator	460

ORCHID/AIR 486DX2-66 256K VESA LOCAL BUS

- Orchid 2 VESA Local Bus Super Board or AIR 3 VESA Local Bus Mother Board
- Intel 80486DX2-66MHz CPU
- AMI BIOS
- Internal Clock/Battery
- 4MB RAM 70ns
- TEAC 1.2 Floppy Drive
- TEAC 1.44 Floppy Drive
- W.D. 212MB 13ms Hard Drive
- Orchid VESA VLB Super IDE w/2S/1P/1G
- Orchid Fahrenheit VLB w/1MB
- NEC 14" Low Radiation SVGA Non-Interlaced Monitor 0.28dp
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini-Tower
- 200 Watt Power Supply

SUPER SALE

486DX2-66 256K VESA Local Bus

- VESA 32 bit VLB Motherboard
- Intel 80486DX2-66MHz CPU
- AMI BIOS
- Internal Clock/Battery
- 4MB RAM 70ns
- TEAC 1.2 Floppy Drive
- TEAC 1.44 Floppy Drive
- 212MB Western Digital 13ms Hard Drive
- TSENG ET4000 w/1MB Hi-Color
- Relisys 15" Flat Screen 1280x1024 Non-Interlaced SVGA Monitor .28dp
- Teac 1.2 & 1.44 Floppy Drive
- IDE 2FD/2HD Controller
- 2 Serial, 1 Parallel, 1 Game Port
- Mitsumi 101 Enhanced Keyboard
- Deluxe Mini Tower
- 200 Watt Power Supply

SUPER SALE

$1599

CD ROM & SOUND CARD

MITSUMI CD-ROM Drive 350ms	$158
MITSUMI CD-ROM W/5 Title CD	228
TOSHIBA XM-3401 200ms	399
NEC CDR-74 CD-ROM 280ms	570
NEC CDR-84 CD-ROM 280ms	425
Panasonic CR522 CD-ROM 380ms	179
Creative Labs Discovery CD 8 Upgrade Kit	379
Creative Labs Entertainment CD16 Upgrade Kit	499
Sound Blaster Pro	105
Pro Audio Spectrum 16	138
Sound Blaster Pro Deluxe w/CD	115
Sound Blaster Pro 16 ASP w/CD	195
CD Bundle Software Kit	69
LabTec Stereo Speakers	19
Microsoft Bookshelf (MPC)	29
Microsoft works (MPC)	29
Mixed-up Mother Goose (MPC)	19
King's Quest V (DOS)	15
Compton's Encyclopedia (MPC)	54
Chess Master 3000 (MPC)	19
Wing Commander /Secret Mission	27

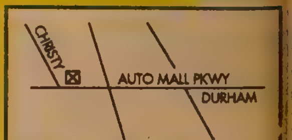
VIDEO GRAPHIC CARD

Trident 8900C SVGA Card w/1MB	$52
Tseng ET-4000 w/1MB Hi-Color	69
Genoa 8500 VLB w/1MB	118
Diamond Speed Star Pro w/1MB	118
Diamond Speed Star Pro VLB w/1MB	138
Diamond Stealth 24 w/1MB	140
Diamond Stealth 24 VLB w/1MB	158
Diamond Viper VLB 2MB VRAM	368
Orchid Fahrenheit 1280 Plus w/1MB	139
Orchid Fahrenheit VLB w/1MB	135
Orchid P9000 VLB w/3MB	348
ATI Graphics Ultra w/Mouse	165
ATI Graphics Ultra Pro VLB w/2MB	318
ATI Graphics Ultra Plus w/2MB	238

PC UPGRADE WELCOME

World-Net Microsystems, Inc.
43172 Christy St. • Fremont, CA 94538

Business Hours:
Mon-Fri 9:00-6:00
Sat 10:30-4:00



We Are Inside
Lincoln Executive Center

BEST PRICE, BEST QUALITY, BEST SERVICE
(510) 770-1158

486DX-33 w/64K VESA Local Bus

VESA 32 bit VLB Motherboard
Intel 80486DX-33MHz CPU
AMI BIOS
Internal Clock/Battery
4MB RAM 70ns
W.D. 212MB, 13ms Hard Drive
32 bit VLB Super IDE Controller
32 bit Cirrus Logic VLB SVGA w/1MB
SVGA Monitor 1024x768 .28dp
Teac 1.2 /1.44 Floppy Drive
2 Serial, 1 Parallel, 1 Game Port
Deluxe Mini Tower
200 Watt Power Supply
Mitsumi 101 Enhanced KB

SUPER SALE

$1258

386DX-40MHz w/64K Cache

- ➠ AMD 80386DX-40CPU
- ➠ AMI BIOS & Math Co-Socket
- ➠ Internal Clock/Battery
- ➠ 4MB RAM 70ns
- ➠ 120MB Conner 15ms Hard Drive
- ➠ Trident SVGA w/512K
- ➠ SVGA Monitor 1024x768 0.28 dp
- ➠ 1.2 /1.44 Floppy Drive
- ➠ IDE 2FD/2HD Controller
- ➠ 2 Serial, 1 Parallel, 1 Game Port
- ➠ Mitsumi 101 Enhanced KB
- ➠ Deluxe Mini Tower
- ➠ 200 Watt Power Supply

SUPER SALE

$888

E-TECH 14,400 BULLET FAST FAX/MODEM

- ➠ 14,440 bps Int Fax/Modem throughput up to 57,600 bps
- ➠ V.32 bis 14,400 bps
- ➠ V.42 bis Error Correction
- ➠ 100% Hayes Compatible
- ➠ MNP 5 Data Compression
- ➠ 14,400 bps G3 Fax Send & Receive
- ➠ 14,400 bps Data Modem
- ➠ Fast 16550 Chip
- ➠ CCITT V.32 bis
- ➠ Caller I.D.
- ➠ Distinctive Ring
- ➠ Free Fax Software for Windows

$129

MONTHLY SPECIALS

CD ROM

Mitsumi CD ROM Drive
w/Controller
350ms/150K Data
Transfer Rate
Photo CD Compatible

$159

MONITOR

NEC-143 VMA
14" SVGA Non-Interlaced
1024x768 0.28dp
Low-Radiation

$339

MONITORS

ny CPD 1304S 0.25mm dp	$518
ny CPD 1604S 0.25mm dp	889
nao F550i 17" 1280x1024 0.28mm dp	1010
nao F550iw 1280x1024 0.28mm dp	1075
C 1431 14" SVGA 0.28dp Low Radiation	339
C 3FGE 15" SVGA 0.28mm dp	575
C 4FGE 15" SVGA 0.28mm dp	675
C 5FGE 17" SVGA 0.28mm dp	1069
G 15F 15" 1280x1024 0.28mm dp	505
G 17F 17" 1280x1024 0.26mm dp	928
wsonic 5E Non-Interlaced SVGA 0.28mm dp	348
wsonic 6E 14" Non-Interlaced SVGA 0.28mm dp	288
wsonic 15" Low-Radiation NI SVGA 0.28mm dp	499
wsonic 17" Low Radiation NI SVGA 0.28mm dp	1085
4G 15" 1280x1024 NI SVGA 0.28mm dp	405
sys 15" Flat Screen Non-Interlaced .28mm dp	388
14" SVGA Non-Interlaced 0.28 mm dp	268
SVGA 0.28 dp	Best Price 229

PRINTERS

HP DeskJet 500	$385
HP DeskJet 500C	499
HP DeskJet 550C	699
HP LaserJet 4L	739
HP LaserJet IIIP	949
HP LaserJet 4	1399
Panasonic KX-P 2123	245
Panasonic KX-P 2124	Best Price! 299
Panasonic KX-P 2624	385

ADD-ON CARDS

AT I/O (2S/1P/1G)	$15
IDE 2FD/2HD w/(2S/1P/1G)	15
DTC VESA Local Bus IDE 2FD/2HD, 2S/1P/1G	89
Future Domain SCSI 2FD/2HD Controller	58
Adaptec SCSI Adaptor 1542 OK w/Kit	233
Adaptec SCSI EISA Controller 1742 BK w/Kit	419
Trackball (8000dpi)	35
MicroSoft Serial Mouse	42
MicroSoft Compatible Serial Mouse	14
PS/2 Compatible Serial Mouse	18
Logitech Serial Mouse Man	65
Logitech Bus Mouse Man	65
Logitech Trackman	75

BRAND NEW DRIVES

TEAC 1.44/1.2MB Floppy Drive	$38/48
Colorado Tape Backup 120MB/250MB	135/175
Tape Qic-80 3M DC2 120	18
Maxtor 130MB 15ms IDE	175
Western Digital 212MB 13ms IDE	198
Western Digital 340MB 13ms IDE	289
Conner 540MB 12ms IDE/SCSI	599
Quantum 525MB 12ms IDE/SCSI	599
Quantum 245MB/12ms (IDE)	238
Conner 1.37GB 10ms SCSI	998
Quantum 1.2GB 10ms SCSI	1080

MODEMS/FAX

Zoltrix 2400 Int. Modem w/9600 Send Fax	$28
Zoltrix 9600/2400 Fax/Modem w/Bit Fax for Windows	48
E-Tech 9600/2400 Pocket Fax/Modem	98
E-Tech 14,400 bps Int. Fax/Modem w/software for Windows	129
Zoltrix 14,400 bps Ext. Modem	179
Zyxel 16,800 bps Fax/Modem (external IBM, MAC)	350

KEYBOARDS

101 Enhanced Keyboard	$15
Keytronic (Quiet) Keyboard	39
Fujitsu 101 Keyboard	45
Metek K104 Click Keyboard	42
Northgate Omni Key 101/102	78
Northgate OmniKey Ultra	98
Focus 2001/9000	38/59

nd Conditions:
Year parts and labor warranty on systems.
wledgeable technical support engineers in service.
es and availability subject to change without notice.
ping, insurance and COD charges are extra and nonrefundable.
rn shipping must be insured, prepaid and bearing an RMA# on the shipping label.
ective items replaced or repaired at our discretion.
responsible for typos.
returns subject to 15% restocking fee and cover only World-Net Microsystems brand
puters excludes peripherals and software. No refunds after 30 days.
rior reputation for service, quality and value.
hase orders are welcomed and subject to approval.
e reflects cash discount.

Tel: (510) 770-1158
Fax: (510) 770-1159

USER GROUP NETWORK

BULLETIN BOARDS

MULTI-ZONE

Adventures Online. (408)985-1529, 732-4908; (415)321-3661, 365-7002, 573-1063, 244-9218; (510)797-4101. 24 hrs., Multi-user, interactive D&D style fantasy adventure game (similar to MUDD), chat on twelve lines. [Exp. #112.]

Dating Tree BBS. (408)946-1431; (415)349-0961; (510)430-8675. 16 lines, online chat, email, matchmaking. Call for more access numbers. [Exp. #112.]

First Online. (408)247-1717; (415)598-0398, 992-3780; (510)254-5455, 862-2200. Over 30,000 files, 4.2GB, PC-SIG library, adult files. PC and compatibles. [Exp. #113.]

HoloNet Internet Access BBS. (510)704-1058; call for other nationwide numbers. 8-N-1, 24 hrs., 1200/2400/9600/14,400. Internet: telnet, FTP, IRC, MUDs. 3500+ Usenet groups. Free demo. [Exp. #114.]

Interactions BBS. (408)258-8913, (415)469-5510, (510)832-0560 Twelve line chat (over 18 only), email, shareware library, two week free trial. Sysop: C. Watson. [Exp. #113.]

Lambda. (415)572-2591, 755-9439; (510)268-9891. Adult, mostly gay/lesbian, all are welcome, email, chat, matching. Free. [Exp. #112.]

Magic Kingdom Systems. (408)245-3961, 253-2426; (510)440-0433. 18 lines, multiplayer interactive games, teleconference, email, over 3GB of files online, and more. [Exp. #114.]

Paul Revere Network. (408)947-7800, 281-0725; (510)803-0319. Nationwide 50+ node BBS network of grassroots firearms rights activists. PRNKIT.ZIP file for full node list. [Exp. #113.]

Portal Communications. (408)725-0561, (300–2400); (408)973-8091, (9600–57,600); (415)965-8059, (300–57,600). Worldwide X.25 online, shell, BBS & UUCP connections. Voice: (408)973-9111. [Exp. #114.]

Pro-Line BBS. (408)226-3880; (510)888-1130. 24 hrs., Chat, matchmaking, database lifestyles, email, and more. [Exp. #112.]

SF Net. (415)824-8747, 589-2194, 332-3923; (510)450-0155, 638-8644. Coffee House/Cafe Connection, 32 lines, public terminals, chat, matchmaker, msg areas, Fido 1:125/824, Internet mail. Voice: (415)695-9824. [Exp. #112.]

408

#1 Fun Seekers. (408)379-0958, 379-9680. 8-N-1, 24 hrs., IBM, lots of adult/other files, online games, classified ads, msg base. [Exp. #113.]

A32 Macintosh User Group BBS. (408)378-8252. 24 hrs., 2400. Mac, First Class, members only. [Exp. #112.]

Adventure Sports BBS. (408)241-7776. Discounts, info, and discussions on Adventure sports like paintball, bungee jumping, hang gliding, and more. Free, immediate access. [Exp. #113.]

Amateur Action BBS. (408)263-3393. 14,400. Adult Amateur GIF files, sixteen lines. [Exp. #113.]

Autos Online. (408)356-3866, 358-2010. 1200/2400. Shop Bay Area new car dealer inventories, private party for sale and wanted. Join vehicle related forums. No fee. [Exp. #113.]

BayNar-Net. (408)926-8547. 24 hrs., 2400. Model rocketry, astronomy, IBM programs, family-oriented, NAR affiliated. Sysop: Phil Hayton. [Exp. #112.]

Careers Online. (408)248-7029. 1200/ 2400/9600/ 14,400. Online job listing, resume fax service. Free to all. [Exp. #114.]

The Checker Demon BBS. (408)264-9018. 8-N-1, 14,400. Comic and RPG BBS! Focus on Hero Games products. Sysop: John Taber. [Exp. #114.]

Cruzio. (408)423-9995. 8-N-1, 1200/2400/9600/ 19,200. Santa Cruz, email, USENET newsgroups, calendar, agency & gov't. directory listings. Sysop: Chris Neklason & Peggy Dolgenos. [Exp. #112.]

Data Port BBS. (408)259-3019. 8-N-1, 24 hrs., 14,400. Internet email. OS/2 support, FidoNet, OS2net, RBBSnet. No fees. Sysop: Ian Robertson. [Exp. #113.]

The Dark Side Of The Moon. (408)684-2623. 24 hrs., 2400. Online games. Sysop: Riverwind. [Exp. #113.]

Dr. Image BBS. (408)453-6250, 453-6254. 1200/ 14,400. Huge file base for shareware & GIFs. SDN, SDS, Win*Net, util, OS2Net. FidoNet 1:143/88. Sysop: Eric Ho. [Exp. #114.]

The Faxmachine BBS. (408)295-7526. 8-N-1, 24 hrs., 2400–57,600. 10,000+ files & GIFs. Free access. [Exp. #114.]

Grapevine BBS. (408)970-9242. 300/1200/2400/ 9600/14,400. Quality files, tech support, adult files. Many areas free. [Exp. #114.]

The Holodeck BBS. (408)248-0869. 1200/2400/9600/14,400. Online games, FidoNet, IBM files, and GIFs. Home of W&W Communication Doorware. [Exp. #114.]

The LaserBoard. (408)268-4863, 268-6323. 24 hrs., 14,400 RIME, local TNET, and Wildnet conferences. Call and download the latest file available and best service around. Free. Sysop: Shawn Higgin. [Exp. #113.]

Laser Light BBS. (408)496-0771. 8-N-1, 24 hrs., 2400/9600/14,400. IBM, best games in town! Apogee, EPIC, Moraff & MVP Release site. Sysop: Robert Mueller [Exp. #112.]

Mail Stop BBS. (408)257-1919. 8-N-1, 24 hrs., 300/ 1200/2400/4800/9600/19,200. Free, private email and SIG system. Internet/voice mailboxes avail. Sysop: Dcarter. [Exp. #114.]

The Meating Place BBS. (408)926-6174. 24 hrs., 14,400. Gay/Bi, six lines, email, chat, matchmaker, GIFs, and more. System password: Micro. [Exp. #113.]

Mongoose BBS. (408)733-3034. 1200/ 2400/9600/ 14,400. SmartNet, adult files, latest shareware files. Free access. Sysop: Robert Yagmourian. [Exp. #112.]

Monterey Gaming System. (408)655-5555. 300/1200/ 2400/9600/14,400. 24 lines, conferences, msgs., custom games. Free. [Exp. #113.]

Moon Base Hq. BBS. (408)248-3655. 24 hrs., 14,400. 2 CD-ROMs, doors, files, adult & non-adult msg base. Sysop: Reed Slockett. [Exp. #113.]

Moose Is Loose BBS. (408)773-9573. A fun place to message other adults. Sysop: John Giever. [Exp. #112.]

The Mud Hole BBS. (408)865-1621. 2 lines, msg door games. No files! [Exp. #113.]

Nasty Playmates. (408)374-2627. Adult social dating, all preferences, matchmaker, personal ads. Attach GIFs/files to mail. [Exp. #112.]

Nitelog BBS. (408)655-1096, 655-8294. 24 hrs., 300–16,800. DOS/Windows/OS2 adult files, 20 lines, 6.3GB. Sysop: Karl Van Lear. [Exp. #112.]

PC-SIG BBS. (408)524-9835. 8-N-1, 24 hrs., 2400/ 9600/14,400. PC-SIG entire software library plus all new programs reviewed on Shareware Magazine. [Exp. #112.]

PIM Data Line! (408)448-3060. 8-N-1, 14,400. Win games, fonts, utils. MicroPatent support. All free. Sysop: Wayne C. Brown. [Exp. #112.]

Praise Chapel Of Santa Clara ANSI-BBS. (408)747-0192 8-N-1, 2400. Christian topics, files, and discussions. Running TAG. Sysop: [Exp. #113.]

RCLabs BBS. (408)732-2850. AutoCAD and 3D Studio related files and topics. [Exp. #114.]

Ring Of Fire BBS. (408)739-8753. Home for United Sysop's Association and Silicon Valley Novell Users Group. Since 1982. Hub for USAnet. Sysop: Bill Strouse. [Exp. #113.]

The Rising Storm. (408)739-8693. 8-N-1, 14,400. Emergency prep., firearms, politics, and more. Survival echos and files. Sysop: Kirk DeHaan. [Exp. #112.]

Risque Business. (408)776-1841. 16,800. Premium adult graphics. [Exp. #113.]

The Silicon Valley Christian Connection. (408)246-7002. 300/ 1200/2400/9600/ 14,400. NewLife Net, Christ World Echo Mail, files, MIDI, GIFs of the Holy Land. Free access. [Exp. #112.]

The Support Network BBS. (408)259-0297. 10:00 am–midnight daily, 8-N-1, 1200/2400/9600. Community computing for Santa Clara County. Sysop: Frank Arnold. [Exp. #114.]

Syner Chat STS-14. (408)929-1980. 24 hrs., 300/1200/2400. twelve lines, teleconferencing, nationwide linking. Free two week trial membership. Sysop: Joe Boo. [Exp. #112.]

Thunder Mountain BBS. (408)266-4553. 8-N-1, 300/1200/2400. five lines, chat, email, matchmaker, files for all. Free. Sysop: David Alvarado. [Exp. #112.]

The Virtual Reality BBS. (408)246-5434. 8-N-1, 9600. Msgs, files, CD-ROM. Free. Sysop: Jim Busby. [Exp. #113.]

The Warrior Realm BBS. (408)287-3945. 8-N-1, 24 hrs., 300/1200/2400/ 9600. Multiplayer doorgames & FRP, IBM files, and fun. Sysop: Mark Barrow. [Exp. #114.]

Continued

BAY AREA BBSes

By Kathleen Creighton

National Videotex Network: Low Cost, Good Value

A few months ago, National Videotex Network (NVN) was an unknown national online service, a startup rising Phoenix-like from the remains of a failed Houston-area videotext experiment.

NVN's national phone network was in place, but the software wasn't complete. Staffers probably imagined a leisurely pace to work out the kinks, and in the meantime offered the rock-bottom price of $5.95/month flat fee for users who wanted to come along while the system was under construction. Then Prodigy announced it was going to start charging access time for its BBS areas, followed soon after by a rate hike at GEnie, and NVN has been trying to catch up with demand on its system ever since.

The folks at NVN have been quite gracious about the influx of new users, and even its customer service has been getting kudos from Prodigy "refugees." The service offers news, weather, and sports; over seventy forums are currently in place, only a few of which bear a "premium service" price tag. Overall, forum sysops have been flexible and willing to rearrange their fourteen subtopics (the limit per forum) to meet the demand as Prodigy affinity groups gather there in numbers large enough to make their own area worthwhile. NVN will likely benefit from the diversity of users and topics.

There aren't many commands to learn, which means the software isn't very flexible as currently programmed. This is both a blessing and a curse. Since messages are threaded, it's difficult to jump into the middle of a discussion, although the user can request a listing of "thread starts" and write down the message numbers on which he or she wants to follow up. People who dislike threaded software will be annoyed. Others will wish the forums had been set up like GEnie's sequential postings.

NVN looks very much like GEnie, but is easier to navigate, even without the offline reader which is available as third-party software. As with most online services, one has to go specifically to the email area to send and receive mail. And unfortunately, NVN has adopted Prodigy's ill-advised scheme of charging for sending over a certain number of email messages per month. NVN "allows" sixty free outgoing email messages, then charges 20¢ apiece after that. Prodigy users thought that sixty free messages per month was nirvana—those of us accustomed to free, unlimited email can only find this feature distressing. NVN is not on the Internet.

NVN has just adopted a prime/non-prime pricing scheme, with prime time being from 8 am to 6 pm Central, although that will eventually change to cover those same hours over all time zones. The $5.95/month flat fee remains in place for non-prime hours, all day on weekends, and designated holidays. The prime-time rate is $8.00. Funneling most of the use into a set number of hours does at times slow the system down.

Real-time chat is available for a summer discount of $1.50/hour, and there is no charge for 9600 baud access from those nodes that support it. On the other hand, there

Continued

BBSes continued...

415

ABACUS BBS. (415)587-8062. 8-N-1, 24 hrs., 300/1200/2400. Supporting Atari 8-bit, ST/STE/TT030/Falcon030 computers. Msg bases and files avail. Free. Sysop: [Exp. #113.]

AHA Hydrogen BBS. (415)494-3116. 8-N-1, 1200/2400/9600/14,400. Alt. energy info—prosperity without pollution. [Exp. #113.]

Airtight Garage. (415)641-0348. FidoNet msg. areas, SIGs in science fiction, motorcycling, etc. Free. Sysop: Carlos Benitz. [Exp. #112.]

Amiga Station San Francisco BBS. (415)824-8774. 24 hrs., 300/1200/2400. TBBS supporting the Commodore Amiga. Free reg. Sysop: Richard Gaikowski. [Exp. #112.]

Anatomically Correct BBS. (415)856-8425. 24 hrs., 2400. Discussions of adult issues, more than 100 stories. No GIF files. Sysop: Howeird. [Exp. #112.]

The Back Door. (415)756-6238. 24 hrs., 300/1200/2400/9600/14,400. 49 lines, separate Gay, Lesbian, and Straight sub-systems. 18 and over only. Now offering Internet and FidoNet. [Exp. #114.]

Bay Area Bird Registry. (415)771-1788. Lost and found birds. UserName = BIRD, Pwd=LOVER. Sysop: Walt Perko. [Exp. #114.]

The Board With No Name North. (415)826-9626. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Gay male BBS, chat, ONMIChat, email, library w/GIFs & fantasy text. [Exp. #112.]

California Online! (415)331-4081. 9 lines, "California ChatLine", file/msg database, Internet, games. Free & reg access. Sysop: Jim. [Exp. #112.]

Career Connections. (415)917-2129, 917-2125. 8-N-1, 24 hrs. View and respond online to career opportunities. Free. Sysop: S. Dave. [Exp. #114.]

The Classified BBS. (415)665-7918, 665-2475. 8-N-1, 24 hrs., 14,400. For-sale, echo mail, files, and more. FidoNet, Internet, USENET, TCalnet, Kinknet. [Exp. #113.]

Clipboard. (415)239-0454. 12pm–12am. 14,400. Clipper files, FidoNet, Internet, Intelec newsgroups and conferences (job listings, for sale), and doors. Sysop: George Jereza. [Exp. #114.]

Computer Show Hotline. (415)340-9370. 8-N-1, 1200/2400. Latest Computer Show info. Complete list of dates, times, locations, and directions. [Exp. #113.]

Contractors Exchange BBS. (415)334-7393. 8-N-1, 24 hrs., 2400. Jobs, leads, software for the contractor. Sysop: George Salet. [Exp. #112.]

Corner UNIX. (415)564-8750. 8-N-1, 1200/2400/9600/14,400. San Francisco Public Access UNIX. Full USENET/Internet email. [Exp. #114.]

CPP MultiMedia BBS. (415)665-1546. 24 hrs., 300/1200/2400/9600/14,400. Multimedia, GIFs, sound, Windows, credit help, pets. Sysop: Mike Clements. [Exp. #113.]

CyberNET. (415)512-9423. 24 hrs., 2400–38,400. All Macintosh Telefinder GUI interface, FidoNet, hi-tech and beyond. Free. [Exp. #114.]

DPNet BBS. (415)788-8663. 8-N-1, 300/1200/ 2400/9600. Free consultant job listings, FidoNet conferences, Professional Computing organizations, and technical SIGs. [Exp. #114.]

The Elfspire Tome BBS. (415)595-2387. 1200/2400/9600. A Fantasy role-playing G.M. resource bulletin board featuring roleplaying, games, fantasy clipart, and more. [Exp. #112.]

The Energy Board. (415)861-2510. 8-N-1, 12 pm–12 am. FidoNet/USENET environment and energy issues. Sysop: Roger Harried. [Exp. #114.]

Eye Contact BBS. (415)703-8200. 300/1200/2400/9600. Gay men's issues, 70 lines, chat, matchmaker, over 20,000 files. 18 and over. Local access numbers nationwide. Sysop: Bill Montgomery. [Exp. #114.]

Fog City. (415)863-9697. 8-N-1. Gay & Lesbian community/chat, matchmaking, CD-ROMs, games. Internet email. [Exp. #114.]

Fun University Network. (415)327-4591. 8 lines. Free graphical interface, hosted multi-player simulation games, current events focus. Sysops: Wendie, Mike, Lisa, and Scott. [Exp. #114.]

Golden Gate Computer Society BBS. (415)927-1216. 24 hrs., 1200/ 2400/9600/14,400. Four lines, ILink, CalLink, and USENET. d/l OK on first call. [Exp. #113.]

Graveyard Shift BBS. (415)923-9060. 1200/2400/9600/14,400. All adult only, XXX txt, GIF, original animation, TrobNet, SexNet. three lines. [Exp. #114.]

Guideboard. (415)864-3858. 24 hrs., 300/1200/ 2400. Multiline, Cabbie's Guide to SF restaurants, doctors, auto repair, etc. Sysop: Dick Schwartz. [Exp. #113.]

Hispanic OnLine Access. (415)252-0285. 8-N-1, 24 hrs., 300/1200/2400/ 9600/14,400. Hispanic issues, software, business. Free. [Exp. #112.]

IBBS West. (415)564-9996. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. 4 lines, PC and compatibles, shareware, utils., adult GIFs, CD-ROM, 13,000 files. $$. [Exp. #114.]

In Sync. (415)507-9463. 14,400. Sysop: Tektronix. [Exp. #114.]

The MIDI & Multimedia Exchange BBS. (415)771-1788. .MOD, .MID, .VOC, .SAM, .AVI, .FLI & Synth Patch's. Sysop: Walter Perko. [Exp. #112.]

The New Dork Sublime BBS. (415)864-DORK, 255-NERD. Subliminal news for new dorks everywhere. NIRVANAnet node 9:900/10. Sysop: Demented Pimiento. [Exp. #113.]

Nexus BBS. (415)681-5862. 24 hrs., 14,400. SciFi, Illuminati, ANIME, Visual Basic, CAD/Graphics. Free until Sept. 93. [Exp. #113.]

NiteLite Remote BBS. (415)965-8365 (Public Callers); 965-4097 (Members Only). 8-N-1, Internet email, FidoNet 1:143/214, doors, networked games. Sysop: Byron McKay. [Exp. #114.]

Pacific Micro BBS. (415)941-9699. 14,400. Free. [Exp. #113.]

Recovery BBS. (415)255-2188. 8-N-1, 300/1200/2400/9600/14,400. Dedicated to 12 Step Recovery programs (AA, NA, Al-Anon, CoDA, SLAA, etc.). Fido 125/9. Sysop: Rich Gorin. [Exp. #114.]

Robotic BBS. (415)648-6427. 8-N-1. Software and msgs. for robot building enthusiasts. Sysop: Brad Smallridge. [Exp. #113.]

The Shareware Exchange! BBS. (415)992-2860. 8-N-1, 1200/2400/9600/ 14,400. Latest shareware IBM files, distribution site. Online games, msgs, and more. Sysop: Christopher Jong. [Exp. #113.]

Smart BBS. (415)369-8706. 24 hrs., 1200/2400. Small BBS, many online games, growing transfer sections. $15 requested. [Exp. #114.]

Symmetrics BBS. (415)382-6679. 8-N-1, 24 hrs., 1200/2400/9600/ 14,400. Online games and lots of shareware programs. [Exp. #113.]

The System. (415)365-1246. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Accounting, AccPac, BPI, Simply, Telemagic, Novell. Email, 600MB file area, and virus free. [Exp. #113.]

Toad Hall BBS. (415)595-2427. 24 hrs. Five nodes, 16,000 files. Intelec, RIME, ILink, and Smartnet networks. Subscription optional. Sysop: Gordon Anderson. [Exp. #114.]

Uncle D's Directory. (415)364-3001. 8-N-1, 24 hrs., 1200/2400/9600/38,400. Software for deaf & education, msgs, file search, classified ads, offline mail, doorways. No fees. [Exp. #113.]

/usr/school/BBS. (415)564-8896. 7-E-1, 24 hrs., 1200/2400. How to access the Internet, C & UNIX classes. If garbage, press ctl-@. Sysop: Dennis McMamara. [Exp. #114.]

VA Listings. (415)744-7793. 24 hrs., 300/1200/ 2400. VA-owned homes for sale. Multiline. Sysop: David Piersall. [Exp. #112.]

VidGame BBS. (415)742-6441. 2400–16,800. 5500 GIFs, music files, online games, Windows, LAN, utils, computer news, 2.2GB. Sysop: George Hassmer. [Exp. #114.]

Walking Thru Syrup. (415)666-3249, 752-3614. A message based board with subs about homebrewing, coffee, and everything else. [Exp. #112.]

Wetware Diversions Public UNIX. (415)826-0397. 8-N-1, 24 hrs., 1200/2400. Full Usenet news, eight lines. Sysop: Eric Swason (editor@wet.UUCP). [Exp. #113.]

Window World BBS. (415)931-0649. 24 hrs. For people who use Windows-type software. Info., shareware, chat. Sysop: Bob Cram. [Exp. #113.]

510

8-Bit Apple User Group. (510)294-8052. 24 hrs., 300/1200/2400. Apple II support, email, msgs, games, files.. Free. Sysop: Noel Anklam. [Exp. #113.]

Activist. (510)532-6248. Lots of conspiracy text files—CIA, KGB, FBI, JFK, RFK, MLK, NSA, ADL, MI5, etc. Sysop: Walter Alter. [Exp. #114.]

Addtech BBS. (510)623-7709. 1200/2400/9600/14,400. Huge file base for multimedia. FidoNet 1:143/126. Free. Sysop: Eric Ho. [Exp. #114.]

Alpha Centauri BBS. (510)947-5835. 24 hrs., Fantasy, msgs games, downloads, frisbie, etc. [Exp. #113.]

Amiga Addicts Anonymous BBS. (510)680-2850. 8-N-1, 24 hrs., 1200/2400/ 9600/14,400. Amiga files. Free. Sysop: Stanley R. [Exp. #114.]

Beyond Your Wildest Fantasy BBS. (510)785-4312. 24 hrs., 1200/2400. Lrg online fame, file, and msg sections. [Exp. #113.]

Blue Smoke CD-ROM BBS. (510)455-5587. 24 hrs., 14,400. Access 15,000 files, FidoNet, RANet, email. No ratio, free. [Exp. #112.]

Breaking Walls; Building Bridges BBS. (510)827-0804. 24 hrs., 300/1200/2400. HIV, LesBiGay, MCC, FidoNet, and HIV-Net. Sysop: Deacon DVMCC. [Exp. #112.]

Bust Out BBS. (510)888-1443. 24 hrs., 14,400. 9 nodes, 5GB, huge msg and file network including the Internet (many adult). Computer systems and software services. Sysop: Alex J. Riggs. [Exp. #113.]

The CaddyShack II. (510)451-1206. 1200–19,200. Specializing in Mac files. Sysop: Mikey. [Exp. #114.]

Camphor Fountain BBS. (510)547-5741. 8-N-1, Baha'i Network, nine FTS networks. Instant access, no fee. Sysop: Linda Martin. [Exp. #113.]

Compu-Ace RBBS. (510)794-4029. 9600. FidoNet 1:215/739, BAY_LINK member. Files, games, msgs, and more. Sysop: Scott A. Mercer. [Exp. #113.]

The Creative Dimensions BBS. (510)484-4944. 24 hrs., 1200/2400. Home of CD-MAN and more. Free downloads on first call. [Exp. #112.]

The Dragonhead BBS. (510)417-8718. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. Online games, offline mail reader. Free. Sysop: Ray Khechen. [Exp. #113.]

Ecclesia BBS. (510)526-6584. 24 hrs., 1200. FC board, GUI for Mac and Windows. Homeschool Online Network. Kids welcome. Free. Sysop: Jason Rippetoe. [Exp. #113.]

Elaine Thomas BBS. (510)803-0800. 24 hrs., 2400/9600. Hi-Quality GIFs of

Continued

PACIFIC EXCHANGE
"Full Featured BBS"

- 50,000 DOS/Window files
- 10,000 Adult Files
- 12 Incoming Data Lines
- USA Today News
- On-Line Shopping Mall
- Support to 38,400 bps
- User Interactive Games
- Teleconferencing
- 68 Different SIG's
- Classified Ads & More

Full Access - $25/Year

Master Card VISA

408 - 946 - 8561

XXX
GRAVE YARD
THROBNET
SEXNET
(415) 474-0178
GIFS
(415) 923-9060
2400

pathway
BBS

THE BEST JUST GOT BETTER.

Formerly West Coast Swinger's BBS, our name isn't the only thing that has changed. Take a look at us now.

¤ 16 lines running at 14.4k
¤ 7 fast CD-ROM drives online - 3 Shareware & 4 Adult
¤ Extensive collection of non-CD files & GIFs
¤ Now running TBBS software
¤ The hottest live chat in California!
¤ Message Bases for public and private conversations
¤ See classified ads from magazines before published!
¤ Online USA Today - instant access to news articles
¤ Very reasonable rates

(408) 956-5600

BBSes continued...

amateur and professional models, home of "Bay Area Girl Next Door." [Exp. #114.]

Entropic Sanctum. (510)794-6586. 24 hrs., 1200/2400/9600/14,400. Dismantling the illusions of culture and society. Running the new Roboboard GUI platform. Come see the future. Free level. Sysop: The Oracle. [Exp. #114.]

Fred Haney & Sons BBS. (510)792-5119. 8-N-1, 24 hrs., 300/1200/2400/ 9600/ 14,400. Shareware software. Free. [Exp. #113.]

FrEdMail Oakland. (510)834-2636. 1200/2400/9600. Educator/student network w/Internet mail access, OUSD Bilingual Ed support BBS. [Exp. #113.]

FrEdMail Snlndro. (510)895-1785. 1200/2400/9600. Educator/student network with Internet mail access, San Leandro HS, NorCal Hub. [Exp. #113.]

GIFt Shop. (510)689-4686. 8 lines, 6GB, northern CA's hottest and largest BBS. VISA & MC accepted. Sysop: Waik Gan. [Exp. #113.]

GMV-BBS. (510)294-9052. 24 hrs., 300/1200/ 2400/ 9600. Multiline subscription BBS. Teleconference, private chat, email, SIGs, games, and file library for Amiga, IBM, Apple 8-bit, and Mac. Livermore. [Exp. #114.]

Gold Diggers BBS. (510)568-7807,,,23,23. 24 hrs., 2400–19,200. IBM, Atari ST, Amiga, and Mac files and messages. [Exp. #112.]

The Hobby Shop BBS. (510)357-4125. 8-N-1, 38,400. Over 5600 files, many adult, Fido. No upload ratio, free. [Exp. #113.]

L & B Sharing BBS. (510)530-3499. 8-N-1, 300/ 1200/2400/9600/14,400. Nutrition, Recovery, New Age, files, doors, FidoNet, DharmaNet, SkyNet. Free. Sysop: Brian Gorecki. [Exp. #112.]

Legal Information Systems BBS. (510)644-1899. 24 hrs., 1200/2400. Cal. Appeals & 9th Circuit Court recent decisions. Fee for full access. [Exp. #113.]

Mayanus BBS. (510)798-6543. 24 hrs., 2400. Specializing in graphx and util. IBM and Mac uploads welcome. Free. Sysop: Benign Fiend. [Exp. #114.]

Milk & Blood. (510)653-2232. 8-N-1, 2400. Drunken Milkman, driving drunk, discuss anarchy & personal hygiene. Free. [Exp. #113.]

The New-Ark BBS. (510)796-0947. 24 hrs., 2400/9600. Tradewars, running on two CD-ROMs. Reg required. Sysop: Hiram Wolf. [Exp. #113.]

Olde Stuff BBS. (510)530-3051. 8-N-1, 24 hrs., 9600. Antiques, collectibles, history, genealogy. Buy, sell, learn. Sysop: Bill Clark. [Exp. #112.]

Omikron BBS. (510)657-8820. 24 hrs., 14,400. Mac files and discussions. Fremont. Free. Sysop: [Exp. #113.]

The Party Wherehouse BBS. (510)256-9809. 8-N-1, 24 hrs., 14,400. Multiline, multine, tons of files, msgs, chat, dating, monthly user partiesl. Adult & alt lifestyles welcome. Sysop: Party. [Exp. #114.]

The Phantom Zone BBS. (510)538-9586. 8-N-1, 24 hrs., 300/1200/2400/ 9600/ 14,400. Online games, offline mail reader. Free access. [Exp. #113.]

The Pit Of Despair. (510)939-8934. Not for the weak hearted! Free. Sysop: Scarecrow & Dargoth. [Exp. #112.]

The Revolution. (510)451-1206. 1200/2400/9600/ 14,400/19,600. Specializing in Mac files, yet all types welcome. Free. Sysop: Mike McGee. [Exp. #114.]

So Be It! (510)680-1980. 24 hrs., 300/1200/ 2400/ 9600/14,400. Specializing in male GIFs and topics for women. Online games, message areas. [Exp. #112.]

The Squeeze BBS. (510)829-2252. 8-N-1, 24 hrs., 2400. Bay Area entertainment, genealogy, IBM, Windows, adult, and games. Free. [Exp. #114.]

StarPort Valhalla. (510)522-3583. 8-N-1, 24 hrs., 300/1200/2400/ 9600/14,400. Modified WWIV. 100+ echos on five networks. Online games. Sysop: Tracy Baker. [Exp. #114.]

Tailored Chains BBS. (510)614-2960. 5 lines, gay oriented, multiline chat, gay GIFs. Free. [Exp. #114.]

Tiger Team. (510)268-0102. 14,400. Americas #1 Buddhist online service, original files, internet, multiline. [Exp. #112.]

Triple T BBS. (510)458-6404. 24 hrs., 2400/ 9600/14,400. Open to all, newest files, scrabble for pay for top access. Sysop: Peter Tiffany. [Exp. #114.]

VA Listings. (510)637-1261. 24 hrs., 300/1200/2400/ 9600. VA-owned homes for sale. Sysop: David Piersall. [Exp. #113.]

Viper 1 Premium BBS. (510)535-02315. 1200/2400/9600/14,400. Multiline, 900MB of storage, 5.2GB online, large adult file areas, games, image scanning service available. Sysop: Andre Porter. [Exp. #114.]

The Warped BBS. (510)939-8344. 300/ 1200/2400/ 9600/14,400. 260+MB, five nets, WWIV 4.22 node. Sysop: Max Baker. [Exp. #112.]

Wasteland. (510)676-3593, 676-7640. 24 hrs., 14,400. No fees. Sysop: Wizard 1 & Tanker. [Exp. #113.]

The Weasel Den II. (510)432-0204. Featuring WeasNet—online games and msgs only. [Exp. #114.]

Windows Online. (510)736-

Amateur Action BBS
World's Largest Collection of Amateur Adult GIF Files.
New Member Bonus!!
Receive a FREE Amateur Video!!
(408) 263-3393
(408) 263-1868
24 High Speed Lines
US Robotics Dual Standard Modems on all 24 lines
Easy Connection! No Waiting!
VISA
V.32 / 14400 HST
MasterCard

CALIFORNIA ONLINE!
6.3 Gigs of Files
&
California ChatLine!
Local Numbers!
14 Lines and growing.
(415) 331-4081
No Time Limits!
No Hourly Charges!

BBS Column continued...

is a charge for accessing the data libraries.

Being on NVN is an agreeable experience, certainly worth the low price. This is a good, basic service for those who just enjoy being online.

National Videotex Network
P.O. Box 460169
Houston, TX 77056
Customer Service: 1-800-336-9096

TRAVEL BOARDS

Murphy was alive and well and at work on my last column. The number published for Wine Taster's BBS is incorrect. The correct number is (415)459-1948. Sorry for any inconvenience this might have caused.

And right after I submitted that column, I discovered that PBS travel expert Rick Steves (*Travels in Europe*) has a BBS of his own in Seattle. If you've seen his show, you know his travel tips are terrific. The purpose of the board is mainly to provide an area where users can exchange information with each other; and it's also possible to request a free copy of Steves' newsletter, or to download selected pre-publication drafts of upcoming travel guides, such as "Guide to European Railpasses." This board is a gem. (206/771-1902, 2400 baud, 8-N-1, Rich Sorenson, sysop.)

LETTERS, WE GET LETTERS

A reader wrote suggesting that the BBS reviews be more detailed, including such things as the history and purpose of the board.

Usually the only time I speak directly with sysops (although I'm often prompted for a chat online) is when I don't easily understand the content of the board. For example, a board might look to me as if it's geared toward professionals and hobbyists in a particular field, and I'll probably check with the sysop to make sure I understand the board's "target" group.

I think almost all of the information I need about a BBS should be obvious when I log on to it. It's my job to bring to the reader's attention what I think are the highlights of the board, and the phone number is included so that readers can follow up and take a look for themselves.

WHAT'S HAPPENING?

I'm keeping an eye out for very active, preferably nontechnical, discussions online wherever they may be happening, not only locally but also on the national services and Usenet. If you can recommend some interesting reading, email me at *casey@well.sf.ca.us.* US Mail sent to MicroTimes will eventually reach me, but it takes a while. ■

Copyright © 1993 by Kathleen Creighton. All rights reserved.

GARLIQUE GRAPHICS
WORLD FAMOUS GIF'S
ADULT CD'S
FREE CATALOGS
SUBSCRIBE ON-LINE
VISA
AMEX
408-847-0665

NITELOG
20 Nodes BBS
OS2 ∘ DOS ∘ Windows
& Image Files
Internet ∘ Usenet
Rime ∘ ILink Email
(408) 655-1096 2400 bps
(408) 655-8294 v.32bis
(408) 655-8297USR HST
DISCOVER
AMERICAN EXPRESS Cards
VISA
Register Online

Songtech International, Inc.

Tel: 510-770-9051 • Fax: 510-770-9060

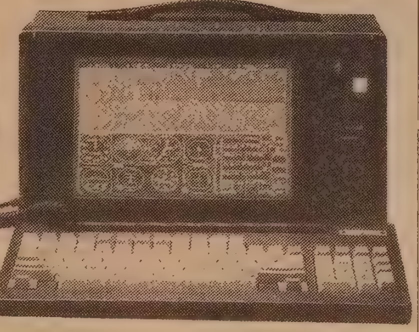
POWERFUL PORTABLES!

KINGTECH

486DX/33 SYSTEM

LCD PORTABLE

- 128K CACHE MEMORY EXP TO 256K
- 4 MB RAM, 2-3 FREE SLOTS
- 1.2 MB/1.44 MB FDD
- 120 MB IDE HARD DRIVE
- SUPER IDE CONTROLLER (2S, 1P, IDE)



VGA PAPER WHITE LCD
$1645

386DX/40
$1385

486DX/33

PORTABLE SYSTEMS

- 128K CACHE MEMORY EXP TO 256K
- 4 MB RAM, 2-3 FREE SLOTS
- 1.2 MB, 1.44 MB FLOPPY DISK DRIVES
- 120 MB HARD DRIVE
- SUPER IDE CONTROLLER (2S, 1P, IDE)

VGA PAPER WHITE LCD	**$1745**
HIGH-CONTRAST VGA PLASMA	**2100**
386DX/40	**1485/1845**
COLOR LCD	**3895**
COLOR LCD VGA (ACTIVE MATRIX)	**3895**

COLOR LCD VGA

(ACTIVE MATRIX)

486DX-50 PORTABLE

- 10" TFT ACTIVE MATRIX COLOR VGA DISPLAY
- 640 X 480 256 COLORS
- 486DX-50 MHz MICROPROCESSOR
- 4 MB RAM (Expandable to 32)
- COMBO FLOPPY DRIVE
- 120 MB IDE HARD DRIVE
- 2 SERIAL, 1 PARALLEL PORTS
- 101 KEY KEYBOARD
- MS DOS 6
- CARRYING BAG
- SIMULTANEOUS DISPLAY
- 15.7" X 9.45" X 7.9"
- 25 LBS

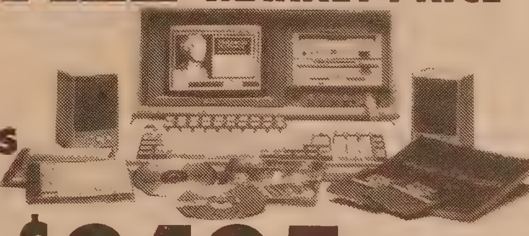
CALL FOR NEWEST MARKET PRICE

SVGA COLOR

CRT PORTABLE

486DX-50 LOCAL BUS

- 128K CACHE EXP TO 256K
- 4 MB RAM W/2 FREE SLOTS
- 1.2 MB & 1.44 MB FLOPPIES
- 120 MB IDE HARD DRIVE
- SUPER I/O (2S/1P, IDE)
- 1024 X 768 SVGA CARD 1MB
- 8.5" TRINITRON 26mm dp CRT



$2495

MULTIMEDIA OPTION $495

SYQUEST REMOVABLE HARD DISK (SCSI TYPE)

44MB Model SQ555	$250	44MB Cartridge SQ400	63
88MB Model SQ5110	295	88MB Cartridge SQ800	95

External Available

MULTIMEDIA PACKAGES

Golden Sound Pro	$155	Panasonic CD-Rom	195

COMPLETE SYSTEMS

486DX2-66 MHz VESA	CALL	486-33 MHz w/64K Cache	CALL
486-50 MHz EISA	CALL	386-40 MHz w/64K Cache	CALL
486-50 MHz ISA	CALL	386-33 MHz w/64K Cache	CALL
486-50 MHz w/64K Cache	CALL	486SX-25 MHz	CALL
486-33 MHz VESA Local Bus	CALL	386SX-20 MHz	CALL

SYSTEM CONFIGURATIONS

- ◆ High Quality Motherboard
- ◆ 4MB RAM On Board
- ◆ 1.2 & 1.4MB Floppy Drive
- ◆ SVGA Monitor .28mm DP
- ◆ 120MB Hard Drive
- ◆ 1MB VGA Display Card
- ◆ Mini-Tower Case w/200 W PS
- ◆ Enhanced 101 Keyboard
- ◆ Mouse
- ◆ IDE I/O (2S/P/G) Controller

VIDEO CARDS & MONITORS

VESA LB SVGA 1MB	$95
Super VGA 1024 x 768 0.28	255
Diamond Stealth 24 SVGA 1MB	165
Trident Super VGA 16 Bit, 1MB	55
Impression 14" Non-Interlace	269
Impression 14" Super VGA	250

DISK SPECIALS

Conner 120MB 19ms IDE	170
Conner 170MB IDE	195
Maxtor 130MB IDE	179
Maxtor 245MB IDE	235
Maxtor 340MB IDE	305
Maxtor 340MB SCSI	425

MATH CO & MEMORY

80387SX-25	$55
80387DX-33	69
80387DX-40	75
256K SIMM Module	CALL
1MB SIMM Module	CALL
4MB SIMM Module	CALL
386,486 CPU	IN STOCK
Cooling Fan For CPU	15

FLOPPY DRIVES

Teac 5 1/4" 1.2MB FDD	$49
Teac 3 1/2" 1.44MB FDD	45
Teac 1.2 &1.44 Combo Drive	125

KEYBOARDS

Enhanced 101 Click (baby)	$29
MTEK 104 Click	35
MaxiSwitch 101	35
Keytronics 101	35
Omnikey 101/102	69
Omnikey Ultra 130	99

COMPUTER CASES

Slide-In Case w/200 W PS	$55
Mini-Tower w/200 W PS	59
Med-Tower w/200 W PS	69
Full-Tower w/230 W PS	89

POWER SUPPLY

SCSI Ext Box w/ PS 30W	$75
200 W AT	39
230 W XT/AT	45
285 W AT	55
300 W AT	75

CONTROLLER CARDS

16-Bit Ethernet Card 2000B	$69
Adaptec 1542CK SCSI	265
Adaptec 1540A SCSI	85
MFM 1:1 16 Bit	18
IDE I/O (2S/P/G)	15
AT I/O (2S/P/G)	12
IDE Card	12
High Speed AT I/O (2S/P/G)	35

MOTHERBOARDS

486DX2/66 VESA	$625
486DX/50 VESA	550
486DX2/66 ISA	610
486DX/50 ISA	530
486DX/33 VESA	395
486DX/33 ISA	380
486SX/33 ISA	265
486SX/25 ISA	185
486DLC/33 ISA	185
386SLC2/50 ISA	325
486DX/40 ISA	125
386SX/33 ISA	85

ACCESSORIES

Logitech Mouseman (Serial)	$65
Logitech Mouseman (Bus)	69
Logitech Trackman (Serial/PS2)	85
MS-DOS 6.0	45
Microsoft Windows V3.1	45
MODEM	
2400 bps	$30
Fax/Modem 2400/9600	48
High-Speed 14400/14400 Fax/Modem	245

AND MUCH MORE...

CALL FOR BEST PRICES

DEALER INQUIRIES WELCOME

44061 So. Grimmer Blvd. Fremont, CA 94538

PC/XT/AT are registered trademarks of International Business Machines, Inc.
Prices subject to change w/o notice. Not responsible for typographic errors.

USER GROUPS

ADOBE

Adobe Technology Exchange: San Francisco Peninsula/ South Bay Chapter. Meetings: 2nd Wed., 7:00 pm, M&T Publishing, 411 Borel Ave., San Mateo. Call: ATX, (408)562-6104. [Exp. #112.]

AMIGA

AAA—Amiga Addicts Anonymous. Meetings: 3rd Tues., Concord Water District Bldg., 1311 Concord Ave. Classes, monthly disks, info line. Call: (510)935-0829. [Exp. #115.]

AUM—Amiga Users Of Marin. Meetings: 3rd Wed., 7:30 pm, College of Marin Science Center, Rm. 191, Kentfield. Desktop Video SIG, Rm. 192, 6:00 pm. Call: (415)479-6717. BBS: (415)485-5895. [Exp. #115.]

AWEST Amiga Users In SF. Meetings: 1st Thurs., 7:00 pm, Laguna Honda School, Conference Rm., 1350 7th Ave., San Francisco. Call: (415)584-8406. BBS: (415)824-8774. [Exp. #115.]

FAUG—First Amiga User Group. Meetings: 1st Tues., 7:30 pm, HT Electronics, 275 N. Matilda Ave., Sunnyvale. Q &A, new product demos, public domain software. Call: Mike Fisher, (415)855-9816; BBS: (415)595-2479; Usenet: mikef@vid.hp.com. [Exp. #117.]

RE—AMIGA Redwood Empire Amiga User Group. Meetings: 2nd Tues., 7:30 pm, Rohert Park Jr. HS, RM. C-5, 7165 Burton Ave., Rohnert Park. Call: (707)523-9978. BBS: (707)795-2717. [Exp. #115.]

APPLE

PAUG—Peninsula Apple User Group. Meetings: 3rd Thurs., 7:00 pm, Ampex Cafeteria, 411 Broadway, Redwood City. All Apples. Beginners, advanced, Q&A, new product demon, PD software. Call: Roger Laker, (415)367-8657. [Exp. #113.]

AT&T

AT&T Computer User Group. Meetings: 1st Wed., general discussion at 6:00 pm, main program at 7:00 pm, 50 Fremont St., 40th Floor, San Francisco. Call: Jim Lansing, (415)885-6631. [Exp. #117.]

AT&T UNIX Computer User Group. Meetings: 4th Wed., 6:30 pm, location varies. Call: Thad Floryan, (415)961-5157 or USENET: thad@cup.portal.com. [Exp. #117.]

ATARI

ABACUS (Atari Bay Area Users Society). Meetings: 1st Sat. 10:00 am, Christ Church Lutheran, Quintara St. at 20th Ave., San Francisco. Supporting Atari computer users. MIDI and DTP SIGs. Call: Riger Sinasohn, (415)469-7924. [Exp. #116.]

Atari Unlimited. National networking and support. Write: PO Box 691, Mountain View, CA 94042. Call: Patti Barbiero, (415)903-9787. [Exp. #117.]

Bay Area Atari Users Group. Meetings: 1st Mon., 7:30 pm, Agnews Aud., 2nd fl., San Jose. Write: c/o 3691 Eastwood Cir., Santa Clara 95054. Call: Joe Fischer, (408)988-3065. [Exp. #114.]

DACE—Diablo Atari Computer Enthusiasts. Meetings: 1st Thurs., Contra Costa Water District Bldg., 1331 Concord Ave., Concord. Call: Dan Galant, (510)689-8256. [Exp. #113.]

Windows OnLine
MAIN MENU
Files Windows NT OS/2 DOS Mail Bulletins News Magazines
Publisher of: WinOnLine Review Shareware Edition
(510) 736-8343 BBS
"One Stop Shopping for Windows Shareware"

18 Lines/Nodes!
Over 150 file areas!
200,000 Messages!

FREE Windows On-Line Magazines
FREE download area for first time callers
Over 650 eMail Special Topic Forums
1,100 OS/2 Files - 18,000 DOS Files
9,000 Windows Files

510-736-8343 BBS

VISA/MasterCard/AMEX Accepted

NO ON-LINE HOURLY CHARGES - NO BUSY SIGNALS 7 GIGS

STace—Atari Computer Enthusiasts. Meetings: 3rd Thurs., 7:30 pm. AT&T Bldg., 3260 Sebastopol Rd., Santa Rosa. Call: Kim Remick, (707)795-8173. [Exp. #115.]

COMMODORE

C=HUG (Commodore Hayward User Group). Meetings: 2nd Sat., 2:00 pm, Palma Ceia Park. (510)531-3734. [Exp. #117.]

CWEST Commodore 64/128. Meetings: 1st Sat., Excelsior Library, 4400 Mission, San Francisco. Call: (415)626-9946. [Exp. #116.]

CONTACT MANAGEMENT

Bay Area TeleMagic User Group. Meetings: 4th Wed., 4:00 pm, Call: George Workman, (408)476-6385. [Exp. #115.]

CORELDRAW

CorelDraw User Group. Meetings: 3rd Thurs., 6:00 pm, ACAD: Association of Corel Artists and Designers, Northern CA Chapter. Call: Matt O'Malley. 1-800-462-5763. [Exp. #114.]

CP/M

San Francisco Computer Society. Meetings: 4th Mon., 7:00 pm, 7th Ave. Presbyterian Church, 1329 7th Ave., San Francisco. Call: Bob Forsberg, (415)885-6202. [Exp. #113.]

DBASE

Silicon Valley Access DB Developers Group. Meetings: 2nd Wed., 7:00 pm, Call: Craig Bauer, (408)745-7600. Fax-On-Demand info: (408)745-0740. [Exp. #115.]

DEC

BayLUG. Meetings: approx. every six weeks. Users of DEC hardware. Call: Rich Taylor, (408)776-4978. [Exp. #114.]

DESKTOP PUBLISHING

Ventura Publishing User Group (formerly VPUG). Meetings: 3rd Mon. (Sept.–May), 6:45 pm, 1800 Rollins Rd., Rm. 14, Burlingame. Call: Elinor Cruz, (415)366-5317. [Exp. #117.]

IBM AND COMPATIBLES

Berkeley PC User Group. Meetings: 2nd Tues., 7:00 pm, Winners Circle Systems, 2618 Telegraph Ave., Berkeley. No charge, newsletter $24/yr, free PD library, beginner SIG, GeoEnsemble SIG. Call: Mel Mann, (510)526-4033. [Exp. #117.]

EastBay FOG. Meetings: 2nd Wed., 7:30 pm, Episcopal Church of St. John-in-Montclair, 1707 Gouldin Rd., Montclair. All microcomputers, MS-DOS, CP/M. Call: (510)653-2627. [Exp. #116.]

Golden Gate Computer Society. Meetings: 4th Mon, 7:00 pm, San Rafael Community Center, 618 B St., San Rafael. Free intro to computers class at 6:00 pm. Call: (415)927-2909. [Exp. #116.]

PC Clubhouse. Meetings: 1st Fri., 7:30 pm, Meiklejohn Hall, CSU Hayward. To share knowledge and PD/shareware software. Club has several BBSes in East Bay and Amador Valley. Call: (510)483-9500, 429-1007. BBS: (510)889-1932 (Hayward). [Exp. #112.]

San Francisco Business Computers. Meetings: 4th Tues., 5:30 pm. For those who use computers in business. Visitors $5. Call: Jordan Rosenberg, (415)788-5338. [Exp. #117.]

San Francisco PC Users Group. Meetings: 3rd Tues., 6:15 pm SIGs, 7:30 pm General Meeting. Fort Mason, Bldg. A. Call: (415)979-5879. [Exp. #114.]

Silicon Valley Computer Society—SVCS. Meetings: 2nd Wed., 7:30 pm, Hewlett-Packard, Bldg. 48, Oak Room, 19483 Pruneridge Ave., Cupertino. Call: (408)956-0864. BBS, (408)956-0317. [Exp. #113.]

South Bay WordPerfect User Group. Meetings: Monthly, dates vary. Saratoga Community Library. Free. Call: Martin Van Derpool, (408)238-8434. [Exp. #113.]

Stanford Palo Alto Area User Group. Meetings: Last Wed., 7:30 pm, Varian Aud., 3075 Ilansen Way, Stanford. DOS/Windows. Free. Call: (415)329-8252. [Exp. #117.]

INTERFACE DESIGN

IICS Human Interface SIG. Meetings: Last Tues., Medius IV, 52 Colin P. Kelley Jr. St., Suite 101, San Francisco. Come join us for a rowdy probing of workable and nonworkable interface designs. Call: (415)905-6959. [Exp. #115.]

LAPTOPS

HPX HP Laptops & Handhelds. Meetings: 2nd Sat., Sunnyvale. Call: Michael Felsenstein, (415)564-8279. [Exp. #112.]

LEGAL

SF Bar Assoc. WordPerfect User Group. Meetings: 3rd Wed., noon, SF Bar Assoc. Boardroom, 7th fl., 685 Market St. Brown bag meetings. Call: (415)421-5650. [Exp. #114.]

MACINTOSH

A32 Macintosh User Group. Meetings: 2nd Sat., 10:00 am, GTE Bldg 3 Cafeteria, 100 Ferguson Dr., Mountain View, corner of Central Expressway and Highway 237. Call: (408)263-0398. [Exp. #115.]

BMUG—Berkeley Macintosh User Group. Meetings: Every Thurs., 6:00 pm, Physical Sciences Lecture Hall, UC Berkeley Campus. Call: (510)549-BMUG. [Exp. #115.]

Diablo Valley Macintosh User Group (DVMUG). Meetings: 3rd Tues., 7:00 pm, Old Republic Title Co., 3000 Clatyon Rd., Concord. Get together w/Mac and Performa users. Enjoyable SIG meetings. Call: (510)827-5775. [Exp. #116.]

Gay Macintosh User Group. Meetings: 4th Mon., 7:00 pm, New Conservatory Theatre, 25 Van Ness, San Francisco. GMUG is a nonprofit group open to everyone. Call: (415)552-GMUG. [Exp. #117.]

International Macintosh User Group (IMUG). Meetings: 3rd Thurs., 6:45 pm, location varies. A forum for multilingual computing. Call: Roger Sherman, (415)859-5146. [Exp. #116.]

Macintosh SIG. Meetings: 3rd Tues., 7:00 pm, Apple Computer, 4 Infinite Loop, Cupertino. Sponsored by Software Entrepreneurs' Forum. Call: Jeff Cherniss, (408)358-5150. [Exp. #117.]

Macs Of Marin. Meetings: Last Wed., 7:30 pm, Corte Madera Rec Center, 498 Tamalpais Dr., Corte Madera. Marin County Mac User Group for all levels of expertise, beginners welcome, SIGs. [Exp. #112.]

PAUG—Peninsula Apple User Group. Meetings: 3rd Thurs., 7:00 pm, Ampex Cafeteria, 411 Broadway, Redwood City. All Apples. Beginners, advances, Q&A, new product demos, PD software. Call: Roger Laker, (415)367-8657. [Exp. #113.]

SPC Apple User Group. Meetings: 2nd Wed., 7:30 pm, Fremont Main Public Library, 2400 Stevenson Blvd. Call: Dean Fearn, (510)881-9160. [Exp. #112.]

Stanford Macintosh User Group (SMUG). Meetings: 1st Mon., 7:00 pm. Call: (415)363-2446. [Exp. #116.]

MARKETING

Marketing SIG. Meetings: 4th Thurs., 7:00 pm, Cubberley Community Center, Rm. H-1, 400 Middlefield Rd., Palo Alto. SIG of Software Entrepreneurs' Forum. Call: Bill Ryan, (415)615-7906. [Exp. #117.]

MULTIMEDIA

DesignSIG. Meetings: 3rd Tues., 6:00 pm. New SIG open to independent businesspeople in graphic arts, word processing, and related fields. Focus to share concerns and solutions related to running own business. Call: Bill Brent, (415)282-7368. [Exp. #115.]

International Interactive Communications Society—IICS. Meetings: 2nd Tues., 7:00 pm, alternate locations San Francisco and South Bay. For people involved or interested in developing and using interactive multimedia technologies. Call: IICS Hotline, (415)252-8114. [Exp. #113.]

Macromedia User Forum. Meetings: 1st Wed., 7:00 pm, 600 Townsend, at 7th St., San Francisco. Authoring, 3-D, content, and tools. Call: John Dowdell, (415)665-3916 (days); email: 71165.3065@compuserve.com. [Exp. #112.]

Multimedia SIG. Meetings: 1st Thurs., 7:00 pm. SIG of Software Entrepreneurs' Forum. Call: Ralph Gilman, (408)746-0551. [Exp. #115.]

Multimedia User Group. Meetings: 1st Wed., 7:00 pm, Contract Design Center, Main Lobby, 600 Townsend St., San Francisco. $3 at door. Call: John Dowdell, (415)665-3916. [Exp. #116.]

North Bay Multimedia Association (NBMA). Meetings: 3rd Thurs., 7:00 pm, Semantic, Novato. Call: Lee Callister, (415)883-0449. [Exp. #117.]

NANOTECHNOLOGY

Nanosystems Study Group. Meetings: Alternate Mondays, 7:30 pm, University Lutheran Church, 1611 Stanford Ave., Palo Alto. The study group will go through Eric Drexler's book, *Nanosystems: Molecular Machinery, Manufacturing, and Computation.* Announcements and mailing list, contact: Ted Kaehler, email: Kaehler2@AppleLink.Apple.com. Phone: (408)974-6241. [Exp. #115.]

The Assembler Multitude. Meetings: every other Mon., 7:30 pm, University Lutheran Church, 1611 Stanford Ave.,

Continued

California Resellers:

Plan now to make the most of your peak selling season with the 1993 MicroTimes Computer and Software Buyers Guide!

Take Advantage of this FREE Editorial Listing!

By making sure you're listed in this year-round resource you will:

- Bring customers into your store during your most important selling season and throughout the following year. They'll see your message next to an exciting lineup of editorial features, including our writers' picks for the best hardware and software products of 1993 and over 30 pages of Buyers Guide announcing new products and special offers—many of which you'll already have in stock, ready to sell!
- Showcase your store, products, and services by telling your potential customers about the unique service your business offers, your in-house experts and the guidance they provide in such areas as LANs, multimedia, accounting and other specialties.
- Benefit from our own special promotions of this exciting issue which will appear in October and November. MicroTimes will help you build the consumer excitement you need to ring up sales as you ring in the New Year.

Special Vendor-Authorized Listings!
In addition to listing your store's name and other information alphabetically by geographical area, this year we're offering an additional feature to enable your prospective customers to find you quickly: **a separate directory of vendor-authorized sales, service, training, and support providers.** So if you're authorized to provide these services for Novell, IBM, Apple, Sun, Hewlett-Packard, or other name-brand products, please give us that information so we can include your name in the vendor-authorized listings.

To make sure you're part of this important resource, complete and sign the attached Reseller Poll form and mail or fax it back to us by Oct. 1, 1993. **If your store has more than one location, please use a separate form for each** location to generate the sales that will make your fourth quarter a success. Don't let this opportunity pass you by!

For advertising information, call (510)934-3700 or (213)851-8600.

MICROTIMES 1993

Computer and Software Buyers' Guide Reseller Poll

Mail To: Reseller Poll, 3470 Buskirk Ave., Pleasant Hill, CA. 94523
Fax: (510)934-7351
Deadline: October 1, 1993

Store Name:____

Store Manager:____

Address:____

City:____________________ State:____ ZIP:____________

Phone:____________________ Fax:____________________

What applications does your business specialize in, and who are your in-house experts for each specialty? (List up to three):

Specialty	Expert

What operating systems does your business support?
MS-DOS__ AmigaDOS__ Windows__ Windows NT__ UNIX (specify variety)________
OS/2__ Macintosh__ Other (specify)__________

List the three top-selling brands sold at your store 1993:

____

What special value-added services (e.g. service, training, support, warranties, return policy, etc.) does your business offer? (Please keep responses under 25 words or we will edit them to fit available space.)

____

____

____

Are you a vendor-authorized sales, service, training and/or support source?
If so, please list up to five vendors (e.g. Sun, Novell, Hewlett-Packard, Autodesk) who have authorized your business to provide these services, and check the areas for which you're authorized.

Vendor	Sales	Service	Training	Support

I certify that all the statements made in this survey are true.

Name:____________________ Title:____________________

Signature:____________________ Date:____________________

USER GROUPS continued...

Palo Alto. An open discussion of new technical developments in Nanotechnology and social consequences and dangers of Nanotechnology. Organized by Ted Kaehler. Email: Kaehler2@AppleLink.Apple.com. Address: 20525 Mariani Ave., MS 301-3D, Cupertino, CA 95015. [Exp. #115.]

NETWORKING

NetSIG. Meetings: 4th Tues., 7:00 pm, Novell Sunnyvale. Networking SIG for Software Developers. SEF group. Call: Skip Addison, (408)283-3545. [Exp. #117.]

NOVELL

Silicon Valley Novell User Group. Meetings: 3rd Wed., 6:30 pm, Sundowner Inn, corner of Ross and Mathilda, Sunnyvale. Call: Bill Strouse, (408)739-9081. BBS: (408)739-8753. [Exp. #114.]

OS/2

Monterey Bay And NPGS OS/2 User Group SIG. Meetings: 2nd Thurs., 7:00 pm, Spanagel Hall, Naval Postgraduate School, Monterey. Demos and product evaluations, question and answer sessions, assistance w/setup. Call: Michael Schievelbein, (408)656-2520 (days). [Exp. #115.]

OS/2 Bay Area User Group. Meetings: 4th Mon., 7:00 pm. For anyone interested in OS/2. Presentations, demos, q&a. Call: (415)755-3124. [Exp. #116.]

OS/2 SIG Of San Francisco. Meetings: 2nd Wed., 7:00 pm, location varies. Call: Margery Blum, (415)931-3110. [Exp. #112.]

PARADOX

Bay Area Paradox User Group (bapals). Meetings: 4th Tues. (except June and July, 4th Wed.), 4:30 pm, SF City College, 800 Mission St. Call: (415)995-4688. [Exp. #115.]

SVCS Paradox SIG. Meetings: 3rd Tues., 7:00 pm, Tandem Computers, Bldg. 251, 10100 N. Tantau, Cupertino. Membership: $12/yr. Call: Scott Jackson, (408)738-0424. [Exp. #114.]

PEN COMPUTING

Pen Software SIG. Meetings: 4th Wed., 7:00 pm, Cubberley Community Center, Rm. H-1, 400 Middlefield Rd., Palo Alto. SIG of Software Entrepreneurs' Forum. Call: Bill McAlpine, (415)348-2257. [Exp. #117.]

PROGRAMMING LANGUAGES

North Bay Forth Interest Group. Meetings: 2nd Sat., 1:00 pm, 2055 Center St., Berkeley. Tutorial at noon. Call: Leonard Morgenstern, (510)376-5241. [Exp. #113.]

Sacramento Forth Interest Group. Meetings: 4th Wed., 7:00 pm, SMUD, 1708 59th St., Rm. A., Sacramento. Call: Bob Nash, (916)487-2044. [Exp. #113.]

San Francisco North Bay Smalltalk/V User Group. Meetings: Every other month in downtown SF. Call: David Freihofner, (415)362-4283. Email: dfrei@well.sf.ca.us. [Exp. #112.]

SEF/SVCS Visual Basic SIG. Meetings: 2nd Thurs., 7:00 pm, Cubberley Comm. Ctr., Rm. H-1, 4000 Middlefield, Palo Alto. Call: Allan Colby, (415)851-4657. [Exp. #117.]

Silicon Valley FIG. Meetings: 1st Mon. after 1st Sat., 7:00 pm, Membership in the Silicon Valley Chapter of the Forth Interest Group is separate from International FIG. Call: Henry Vinerts, (510)790-3945. [Exp. #115.]

Silicon Valley Forth Interest Group. Meetings: 4th Sat., 10:00 am, Applied Biosystems, Inc., Conference Room A/B, 230 Lincoln Centre Dr., Foster City. Call: Art Hampton, (415)873-8554. [Exp. #117.]

Visual BASIC SIG. Meetings: 2nd Thurs., 7:00 pm, Cubberley Community Center, 4000 Middlefield Rd., Rm. H-1, Palo Alto. Sponsored by Software Entrepreneurs' Forum. Call: Allan Colby, (415)851-4567. [Exp. #117.]

Visual C++ Bay Area Developer's Group. Meetings: 3rd Wed., 6:00 pm, Berkeley. For agends, location, and RSVP, Call: (510)254-9700, ext. 490. [Exp. #117.]

SYBASE

Sybase User Group. For information, write: Sybase User Group, attn: Mar-Com, User Group Membership, 6475 Christie Ave., Emeryville, CA 94608. [Exp. #113.]

TEXAS INSTRUMENTS

TI-99/4A. Meetings: 2nd Sat., Oakland. Call: Fred, (510)530-8335. [Exp. #115.]

UNIX/XENIX

BACUG—Bay Area Coherent User Group. Meetings: 3rd Sun., 2:00 pm, San Mateo. Call: Viki Tamaradze, (510)549-1876; email: johnp@dumbcat.sf.ca.us. [Exp. #113.]

N. California UNIX SIG. Meetings: New group, just forming. UNIX, XENIX, LINUX, Coherent. Call: Randy Just, (707)769-1648. [Exp. #112.]

UNIX SIG. Meetings: 2nd Tues., DEC Aud., 130 Lytton Ave., Palo Alto. Sponsored by Software Entrepreneurs' Forum. Call: (415)546-4950. [Exp. #117.]

UNIX/Xenix SVUG. Meetings: 3rd Wed. 7:00 pm, Call: (408)745-7600. Fax-On-Demand info: (408)745-0740. [Exp. #116.]

VIDEO TOASTER

Video Toaster User Group. Meetings: Last Thurs., 7:30 pm, HT Electronics, 275 N. Mathilda Ave., Sunnyvale. Special guests, equipment demos, hands-on workshops, plus info/tips on new System 3.0. Call: Andrew Timmins, (408)243-9233 (eve). [Exp. #115.]

VIRTUAL REALITY

Silicon Valley Virtual Reality. Meetings: 2nd Thur., 7:00 pm, 922 Wedell Ct., Sunnyvale. Open forums, info sharing, and technology developments. Call: Algis normantas, (408)745-7600. [Exp. #116.]

Virtual Reality Group. Meetings: varies. VRG is a nonprofit organization dedicated to supporting and promoting the development of VR technologies in the Bay Area. Everyone welcome. Call: Linda Jacobson, (415)826-4716. Email contacts: Linda Jacobson (lindaj@well.sf.ca.us), Peter Rothman (avatarp@well.sf.ca.us), or Timothy Childs (tchilds@well.sf.ca.us). [Exp. #114.]

WINDOWS

BMUG Windows Programmers SIG. Meetings: 1st Tues., 6:30 pm, 2055 Center St., Berkeley. The Programmers SIG is a forum for Windows programmers of all levels to meet and exchange information. Call: Ferdinand Rios, (510)526-3031. [Exp. #115.]

WinSIG. Meetings: 2nd Wed., 7:00 pm, UC Richmond Field Stn., Bldg. 454, 1301 S. 46th St., Richmond. Windows SIG of the Software Entrepreneurs' Forum. Call: Ferdinand Riosn, (510)231-5690. [Exp. #117.]

BBSes continued...

8343. Windows BBS and publisher of WOL Review. Over 10,000 Win 3.x & 20,000 DOS files, 7GB, 17 lines. Free trial. [Exp. #114.]

Wishing Well BBS. (510)745-7901. 14,400. Quality files, 85+ online games, ANSI art, adult files, and more Sysop: MaryLou White. [Exp. #112.]

Worldview BBS. (510)676-2919. 8-N-1, 24 hrs. 1200–14,400. 2 lines, open to all, docs/discussion of int'l xian democracy issues. Sysop: Bill Gram-Reefer. [Exp. #112.]

707

Cutting Edge BBS. (707)747-5605. 24 hrs., 300/1200/2400/9600/14,400. Great adult section, 90+ doors, net mail, files. Free. Sysop: Bryan Edginton. [Exp. #114.]

Dobbs Enterprises. (707)427-0277. 300/1200/2400/9600. 6 CD-ROMs, 60,000+ files, UN'I Net, Appogee Dist, multiline. [Exp. #112.]

Mnemonic BBS. (707)451-8353, 451-4678. 14,400. 2 CD-ROMs, 12,000 files, netmail, multiline. [Exp. #112.]

The Powder Keg BBS. (707)427-1310. 14,400. Protect your right to keep and bear arms! Free. Sysop: Peter Nesbitt. [Exp. #112.]

Recommended BBS. (707)448-2225. 24 hrs., 300/1200/2400. Multiuser games, teleconference, conversational and technical areas, 16 lines. All welcome. Sysop: Jay C. Parangalan. [Exp. #113.]

Threat Management Institute BBS. (707)935-1713. 8-N-1, 24 hrs., Conferences dealing with issues of personal defense, firearms, law, etc. Schedule of TMI Classes. No Fees. Sysop: Peter Alan Kasler. [Exp. #113.]

916

24th Street Exchange. (916)448-2483. 8-N-1, 24 hrs., 300/1200/2400/9600/14,400. 24 lines, seven CD-ROMs, FidoNet, USA Today. [Exp. #113.]

ASSOCIATIONS

American Association For Articicial Intelligence (AAAI). Write: 445 Burgess Dr., Menlo Park, CA 94025. Call: (415)328-3132. Email: membership@aaai.org. [Exp. #116.]

The Association For Customer Support Professionals. Dedicated to the deveopment and furtherance of customer support as a distinct profession, to the growth of the support community, and to the improvement of support service. Call: (510)865-4515. Internet: tao@well.sf.ca.us. [Exp. #114.]

Association Of Information Systems Professionals (AISP). Write: 922 Weddell Ct., Sunnyvale, CA 94090. Forums, support, network for IS Professionals. Many SIGs. Call: Al Normantas, (408)745-7600. Fax: (408)745-0740. [Exp. #116.]

Computer Professionals For Social Responsibility. Meetings: Last Sun., 2:00 pm, BMUG Offices, 2066 Center St., Berkeley. Call: Judy Stern, (510)643-7499. [Exp. #117.]

Computer Software Industry Association. CSIA monitors all state legislation which affects the computer software industry and some federal issues. Call: (415)948-9192. [Exp. #115.]

East Bay Entrepreneurs' Network. Meetings: 1st and 3rd Wed., Berkeley Marina Marriott. The organization of East Bay business and professional leaders who exchange business leads for mutual benefit. Call: Sherry Markwart, (510)843-1557. [Exp. #112.]

IEEE Computer Society, San Francisco Chapter. Meetings: Varying Weds, 7:00 pm, SF State. Call: (415)905-4400. [Exp. #116.]

Independent Computer Consultants Association, Northern California Chapter. Meetings are open to all. Only national trade assoc. comprising non-aligned working computer professionals with in-the-trenches experience. Call: ICCA, (415)441-2948. [Exp. #117.]

Independent Computer Consultants Association, Silicon Valley Chapter. Meetings: 4th Thrus., 6:00 pm. Hobee's Resturant, 920 Town & Country Village, San Jose. Provides a network for independent computer professionals in South San Francisco Bay and Monterey Bay areas.. Call: Chapter Hotline, (408)492-8888. [Exp. #116.]

North Bay Systems Professionals. Meetings: 3rd Wed., 6:00 pm, Embassy SUites Hotel, 101 McInnis Pkwy., San Rafael. NBSP provides a forum and network for systems professionals. Call: Pat Sullivan, (510)769-2648. [Exp. #117.]

San Francisco Robotics Society Of America. Meetings: 1st Wed., 8:00 pm, Exploratorium, San Francisco. Free. Call: Brad Smallridge, (415)550-0588. [Exp. #116.]

Society For Technical Communication, Berkeley Chapter. Meetings: 2nd Wed., dinner at 6:30, program at 7:30, Upstairs, Yenching Mandarin Chinese Resturant, 2017 Shattuck Ave., Berkeley. Call: Rick Julius, (510)975-0876. [Exp. #117.]

Society For Technical Communication, San Francisco Chapter. Meetings: 3rd Wed., 6:00, program at 7:00 pm. Stagecoach Resturant, 44 Montgomery St., San Francisco. For technical writers, editors, and other technical communicators. Some meetings are dinner meetings, for which reservatins are necessary. Call: (415)985-7121. [Exp. #116.]

Software Entrepreneurs' Forum. 3rd Wed., 6:30 pm, Elk's Lodge, 4249 El Camono, Palo Alto. Industry association dedicated to software developers and entrepreneurs, offering information and education on all facets of the software industry. Call: Information, (415)854-7219; reservations, (415)965-9003. [Exp. #117.]

United Sysops Association. Meetings: 2nd Wed., 7:00 pm, Coco's, 1035 S. Mary Ave., Sunnyvale. Organization of bulletin board sysops and users. Call: Bill Strouse, (408)739-9081. BBS: (408)739-8753. [Exp. #114.]

CLASSIFIEDS
MICROTIMES
510
934
3700

C l a s s i f i e d s

Accessories

Multimedia, LANs, Memories, Mother Boards, Mouses, Laser Toners, Drums, Ribbons, Printer Sharing Devices. (408) 452-0241, C.A.P.

Accessories

Direct from Manufacturers, High Quality, Low Prices, Computer Accessories. Free catalog! (408) 997-7811 or fax (408) 997-8718.

"Tame Your PC"
Time indexed 70-minute **training video** for your personal computer.
Makes computer training fun and easy.
DOS 6.0 compatible. Bonus tutorial diskette.
Intelligent and bright instruction to make you a power user.
$49.95 + shipping and handling
call 1-800-242-2113 visa m/c only

Diskettes

Discription	Non-Formatted	Formatted
3.5" DS/HD	.51ea.	.52ea.
3.5" DS/DD	.35ea.	.36ea.
5.25" DS/HD	.30ea.	.31ea.
5.25" DS/DD	.20ea.	N/A

100 Disks minimum - Call for pricing on smaller quantities

Call 1-800-975-3100
Function One

Display Your PC's Screen on up to 20 Monitors
Model 400 Video Splitter
Extension cables to 250 ft. available.
Made in USA
Works with VGA, SVGA and RGBS monitors.
Starting at $250
H & R TECHNOLOGY
SANTA ANA, CA (800) 959-6439

Accessories

Quality IDEMITSU Rewritable
OPTICAL DISKS
ISO Standard
Proven Performance
3.5" (128 MB) 5.25" (600 MB)
$37 $97
1-800-247-0013
FAX (719) 475-1845
MPS Mail Order Inc.

Bulletin Boards

PACIFIC EXCHANGE BBS 408-946-8561. Full Featured BBS with 12 Incoming Data Lines, 50,000 IBM/Window files, 10,000 Adult files, USA-Today online news, Games, Grafittie, Classifieds and more.

FIRST ONLINE. Over 30,000 files. 5.2 Gig! PC-SIG Library. Huge adult conference. All lines USR 1200-16,800 baud. REDWOOD CITY: (415)598-0398 SAN FRANCISCO: (415)992-3780 ORINDA: (510)254-5455 SUNOL: (510)862-2200 SAN JOSE: (408)247-1717.

Accessories

POWERVISION
New revolutionary on-line buying & information service. Ground floor opportunity MLM. Income for Life. A no risk money making Opportunity. Call for details. (415) 388-8893

Bulletin Boards

FREE WINDOWS SOFTWARE, Windows Online (510)736-8343 bbs. Get those hard to find public domain and shareware Windows 3.x files.Call from your home or office, by modem.Assist your company with their Networking of Windows.ATTENTION: Windows Developers, upload your new DEMOS and Sharware for distribution.We provide 50 New Windows & DOS files everyday & currently 10,000+Win3 files-Over 650 message and support Conferences.Read our new magazine called "WinOnLine REVIEW" with its full color graphics and hypertext, all in a Windows HELP file.Includes Windows Tips, shareware and commercial software reviews, New Win3 Product News and much more.All 13 lines are US Robotics Dual Standard modems to 16,800 BPS.,7.0 gigs of storage and Visa/MC accepted on-line for memberships. Call (510) 736-8343 today. Sysop&Publisher, Frank Mahaney.

We have the Bay Area covered!
- 30,000 files, 5.2 Gigabytes
- PC-SIG Library on CD ROM
- Huge Adult Conference
- Local Numbers for many bay cities.

415-598-0398	San Carlos
415-992-3780	San Francisco
510-254-5455	Orinda
510-862-2200	Sunol
408-247-1717	San Jose

first ONLINE

Bulletin Boards

Bulletin Boards

Career Connections
Free access from anywhere at anytime.
View and Respond to the exciting
Career Opportunities on-line
Call (415) 917-2129 (2400 Baud)
Call (415) 917-2125 (9600 Baud)
Modem settings: 8,1, N
Modem emulation: ANSI or VT100
Voice: (415) 941-6101

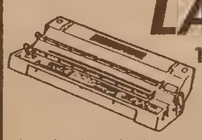
Business Opportunities

Earn $75/hour with your own computer cleaning business. Call for free information. (408) 778-2944.

Cartridge Refill

Cartridge Refill

Laser Ace. Toner Cartridge recharge for Laser Printers and Canon PC Copiers, $34-$39. (408) 263-4608.

LASER WORKS

1 (800) 484-9817 code "LASR"
Satisfaction guaranteed!
Toner cartridges
Printer Service
(510) 232-8946 109 Minna St., Suite 406 San Francisco 94105

ORRIS TONER CARTRIDGE REMANUFACTURING COMPANY
We completely disassemble, clean and replace worn or defective parts, replace toner with high quality OEM toner and assign your cartridge with a tracking number.

Ink Jet Cartridges Refilled	\$6.00-\$12.00
Ribbons Re-Inked	\$1.00-\$7.90

1-(800)-484-9896-1055 • Local (408) 779-6940 **100% GUARANTEE**

HOW TO PLACE YOUR CLASSIFIED AD IN MICROTIMES:

MINI DISPLAYS: 1 column inch=1 5/16"x7/8" wide. $49 per col/inch, camera ready art, or $49 + $20 for 1X typesetting/production fee.

BUSINESS ADS: Rates are $15 for 15 words or less. 50¢ for each additional word. Your phone number counts as one word.

CATEGORIES: See index to choose the classification that best describes your product or service.

FREE ADS: Private individuals may have one free classified ad of 15 words or less under Hardware, Software, or Accessories only. Mail coupon by the noon deadline for that issue, no phone orders for free ads.

No refunds will be given after copy is received. Credit may be given under certain circumstances

Mail, deliver or fax this coupon along with payment by noon deadline for that issue.

TO RESERVE SPACE
Phone Orders
(510) 934-3700
Fax Orders **(510) 934-7351**
with Visa or MasterCard only.

CLASSIFIEDS CATEGORIES
- ☐ HARDWARE
  - ☐ For Sale
  - ☐ Wanted
- ☐ SOFTWARE
  - ☐ For Sale
  - ☐ Wanted
- ☐ ACCESSORIES
- ☐ BULLETIN BOARDS
- ☐ SERVICES
- ☐ BAR CODES
- ☐ CARTRIDGE REFILL
- ☐ DESKTOP PUBLISHING
- ☐ DISK CONVERSION
- ☐ REPAIRS
- ☐ VOICE MAIL
- ☐ MISCELLANEOUS
  - ☐ Computer Rentals
  - ☐ Office Rentals

CAREER MARKETPLACE CATEGORIES
- ☐ Employment Information
- ☐ Jobs Offered

CONSULTANTS NETWORK CATEGORIES
- ☐ Accounting
- ☐ Business Opportunities
- ☐ Engineering
- ☐ Finance
- ☐ General
- ☐ Hardware
- ☐ LAN
- ☐ Programmers
- ☐ Software
- ☐ Technical Writing
- ☐ Training

____
____
____
____
____
____

Cost of ad ________ **X number of issues to run** ________ **= Amt. enclosed** ________

☐ **Classified** ☐ **Career Marketplace** ☐ **Consultants Network**

☐ Check/MO ☐ Visa ☐ MasterCard Credit Card # ________ Exp. Date ________

Name ________ Amt. ________

Address ________

City ________ State ________ Zip ________

Phone (____) ________

SEND TO: MicroTimes Classifieds, 3470 Buskirk Ave., Pleasant Hill, CA 94523

DEADLINE FOR INSERTION IN THE SEPTEMBER 20, 1993 ISSUE IS NOON ON FRIDAY, SEPTEMBER 3, 1993

Classifieds

Cartridge Refill

Cartridge Refill

Quality Remanufactured Cartridges

Ribbon	Laser Toner
Top quality new ribbon replaces old ribbon, as good as new or better	High Quality After market parts make our cartridges better than new & 100% guaranteed

Save $ and help keep cartridges out of Landfill

We Buy Cartridges!

ReNew Printer Cartridge Corp.

(415) 854–2192
1(800) 303-2148

$3 off first Laser Cartridge with ad.

YOUR #1 SOURCE OF NEW & QUALITY REMANUFACTURED CARTRIDGES. SPECIALIZING IN LASER PRINTER & COPIER CARTRIDGES FOR HP, CANON, APPLE, IBM, EPSON & MANY MORE. 100% GUARANTEED. FREE PICK-UP & DELIVERY. WE SERVICE LASER PRINTERS & COPIERS. TOP DOLLAR PAID FOR YOUR EMPTY CARTRIDGES. UNITED LASER CARTRIDGE SERVICE. 800-633-8527, 510-689-1101.

LASER PRINTERS & COPIER Remanufactured cartridges 100% Guar. LASER PRINTER/ COPIER SERVICE SPECIAL $59.00+PARTS! We deal with HP, NEC, IBM, CANNON, APPLE, SHARP & 250 OTHER MODELS. WE SPECIALIZE IN HPIIIsi, HP-4, IBM4019, CARTRIDGES! We do DrumUnits for panasonic, okidata, ricoh, Epson, etc. 25 Recond. L Printer. For Sale (HP Series 1 & 11, Apple etc;) CALL LCI: (800) 404-2101 or (510) 893-7001.

CD - ROM

CD - ROM

CD - ROM

CD - ROM

Explore Company

Best Source For CD-ROM Drives & Titles

* Toshiba 3401 $ 419 (Int.) $519 (ext.)
(SCSI, 200 ms, Double Speed)

* Panasonic CR 562 $259 (Int.)
(AT-Bus, 320 ms, Double Speed, w/card)

* Space Adventure. $23, Dino. Advent. $23
150 Titles in Stock, Call for Price List

6472 Camden Ave., #104, San Jose
Tel: 408-997-1275 Fax: 408-927-7218

CD ROM Cables **Sound Card**

- ☞ NEC, Texel, Sony, Toshiba, Mitsumi, and more
- ☞ Sound Blaster Pro, Pro Audio, and more
- ☞ High Quality and Best Price
- ☞ Monitor Repairs! Cable Assembly Available

Voice: (408) 988-0788 Fax: (408) 988-2880
A & C International Co., Santa Clara, CA

CD-ROM DRIVES

Toshiba XM-3401B! Double Speed Texel
DM-3024 and DM-5024
SCSI Interface cards Trantor
Media Vision TEAC CD-50
Multimedia upgrade kits • Compact Disc Software
Sony CD-ROM Caddies • CD-ROM Accessories

COMPUTERS AT LARGE
Saratoga, CA
Dedicated to CD ROM Technology

Please Call for Our Price List
800-642-4194 408-255-1081
408-255-2388 Fax

CD - ROM

Adults CD ROM. All ROM disks are menu driven and BBS ready. Titles available PC-pix volumes I and 2, 600+ mega bytes, $159. Erotic Encounters, worlds largest adult CD ROM $139. Storm volumes I, 2 or 3 $159/each. Ecstacy Hot Picks $179. Cal Ad Software, P.O. Box 50204, Long Beach, CA 90815.

STARDUST SOFTWARE

CD-ROM DRIVES • ALL MAJOR BRANDS
Sony • NEC • Texel • Toshiba • Mitsumi
Largest Selection of CD-Rom Titles
Soundboards
Speakers
Multi-Media
Call Now for our Low Prices & Save
Burbank, CA 818-559-2270

Computer Rentals

MacAcademy instructional videos - Pagemaker, Photoshop, Macromind, Free Hand, Excel, Filemaker, Superpaint and more. Sales and rentals (415) 255-9760.

For rent or lease: IBM / PC Clone computers. (510) 644-9368.

CD - ROM

Computer Insurance

SAFEWARE

INSURES YOUR COMPUTERS!

Full replacement of hardware, media, purchased software. From $49 yearly. Covers fire, theft, power surges, other accidents. Blanket coverage; no list of equipment needed. Low $50 deductible. Call for information or immediate coverage.

☎ **1-800-848-3469**
Local (614) 262-0559

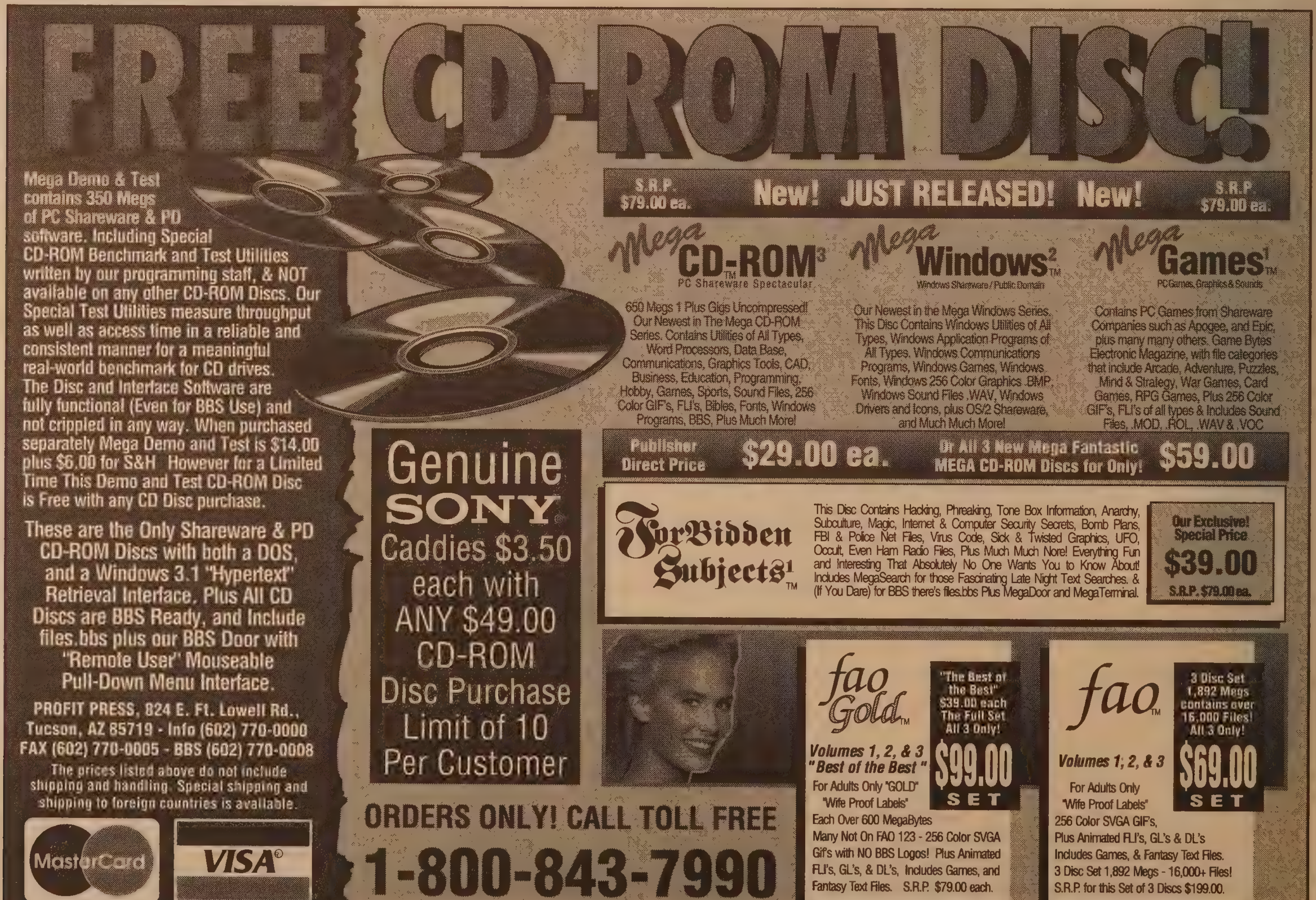
SAFEWARE: The Insurance Agency Inc.
2929 N. High Street, PO Box 02211
Columbus, OH 43202

Data Conversion

COMPUTER DISK & TAPE CONVERSIONS

Micros • Minis • Mainframes
Floppy 1/2" & Cartridge formats
DATA CONVERSION SERVICES
(800) 327-0330

CD - ROM



FREE CD-ROM DISC!

Mega Demo & Test contains 350 Megs of PC Shareware & PD software. Including Special CD-ROM Benchmark and Test Utilities written by our programming staff, & NOT available on any other CD-ROM Discs. Our Special Test Utilities measure throughput as well as access time in a reliable and consistent manner for a meaningful real-world benchmark for CD drives. The Disc and Interface Software are fully functional (Even for BBS Use) and not crippled in any way. When purchased separately Mega Demo and Test is $14.00 plus $6.00 for S&H However for a Limited Time This Demo and Test CD-ROM Disc is Free with any CD Disc purchase.

These are the Only Shareware & PD CD-ROM Discs with both a DOS, and a Windows 3.1 "Hypertext" Retrieval Interface. Plus All CD Discs are BBS Ready, and Include files.bbs plus our BBS Door with "Remote User" Mouseable Pull-Down Menu Interface.

PROFIT PRESS, 824 E. Ft. Lowell Rd., Tucson, AZ 85719 - Info (602) 770-0000 FAX (602) 770-0005 - BBS (602) 770-0008

The prices listed above do not include shipping and handling. Special shipping and shipping to foreign countries is available.

MasterCard VISA

Genuine SONY Caddies $3.50 each with ANY $49.00 CD-ROM Disc Purchase Limit of 10 Per Customer

S.R.P. $79.00 ea. **New! JUST RELEASED! New!** S.R.P. $79.00 ea.

Mega CD-ROM³™ PC Shareware Spectacular	Mega Windows²™ Windows Shareware / Public Domain	Mega Games¹™ PC Games, Graphics & Sounds
650 Megs 1 Plus Gigs Uncompressed! Our Newest in The Mega CD-ROM Series. Contains Utilities of All Types, Word Processors, Data Base, Communications, Graphics Tools, CAD, Business, Education, Programming, Hobby, Games, Sports, Sound Files, 256 Color GIF's, FLI's, Bibles, Fonts, Windows Programs, BBS, Plus Much More!	Our Newest in the Mega Windows Series. This Disc Contains Windows Utilities of All Types, Windows Application Programs of All Types. Windows Communications Programs, Windows Games, Windows Fonts, Windows 256 Color Graphics .BMP, Windows Sound Files .WAV, Windows Drivers and Icons, plus OS/2 Shareware, and Much Much More!	Contains PC Games from Shareware Companies such as Apogee, and Epic, plus many many others. Game Bytes Electronic Magazine, with file categories that include Arcade, Adventure, Puzzles, Mind & Strategy, War Games, Card Games, RPG Games, Plus 256 Color GIF's, FLI's of all types & Includes Sound Files, .MOD, .ROL, .WAV & .VOC

Publisher Direct Price $29.00 ea. Or All 3 New Mega Fantastic MEGA CD-ROM Discs for Only! **$59.00**

ForBidden Subjects¹™

This Disc Contains Hacking, Phreaking, Tone Box Information, Anarchy, Subculture, Magic, Internet & Computer Security Secrets, Bomb Plans, FBI & Police Net Files, Virus Code, Sick & Twisted Graphics, UFO, Occult, Even Ham Radio Files, Plus Much Much Nore! Everything Fun and Interesting That Absolutely No One Wants You to Know About! Includes MegaSearch for those Fascinating Late Night Text Searches. & (If You Dare) for BBS there's files.bbs Plus MegaDoor and MegaTerminal.

Our Exclusive! Special Price **$39.00** S.R.P. $79.00 ea.

fao Gold™

Volumes 1, 2, & 3 "Best of the Best "

"The Best of the Best" $39.00 each The Full Set All 3 Only! **$99.00 SET**

For Adults Only "GOLD"
"Wife Proof Labels"
Each Over 600 MegaBytes
Many Not On FAO 123 - 256 Color SVGA Gif's with NO BBS Logos! Plus Animated FLI's, GL's, & DL's, Includes Games, and Fantasy Text Files. S.R.P. $79.00 each.

fao™

Volumes 1, 2, & 3

3 Disc Set 1,892 Megs contains over 16,000 Files! All 3 Only! **$69.00 SET**

For Adults Only
"Wife Proof Labels"
256 Color SVGA GIF's,
Plus Animated FLI's, GL's & DL's
Includes Games, & Fantasy Text Files.
3 Disc Set 1,892 Megs - 16,000+ Files!
S.R.P. for this Set of 3 Discs $199.00.

ORDERS ONLY! CALL TOLL FREE
1-800-843-7990

Classifieds

Employment Information

International Software Jobs!

The International Computer Professional Association gives you the world-wide contacts to find a software job overseas. For more info call (415)695-7618 Fax : (415)543-3022

Hardware

Backup power supply $165, new, 225w. Protects against spikes, surges, blackouts, (20-30min.), and equipment damanging brownouts. (415)456-7000.

Mac POWERBOOK 100 4/40 (new) $1149, Mac IIFX 4/80 E.K.B. $3099, Mac IICI 5/120 E.K.B (demo.-new) $2599, Mac IICX 5/40 E.K.B. $1999, Mac Quadra 700 4/0 (new) $3899, Mac SE 30 5/40 S.K.B. $1699, Mac SE 4/40 S.K.B. $899, Mac SE 1/20 S.K.B. $749, Mac + CPU $389, Laserwriter IINT $1599, Outbound Notebooks (new) lowest, 52MB ext. HD (new) $299, 40MB HD (new) $259, Mac IISI Nubus Card (new) $149, Apple IIGS Color SYstem (complete) $879, Apple IIe System (complete) $499, Apple IIC/IIC + $249/$349. Other Mac/Apple II's CPU's & Peripherals (new & used). Call for excellent pricing and daily specials. M.P. COMPUTER MICRO SYSTEMS (415)960-1514/FAX (415)968-0509.

WHOLESALE PRICES. Tape backup 525 SCSI $595. 1 GB $715, 2GB $985. 2-8GB $1155. Optical drive 1GB $1645. 80MB W/D $175, 120MB $185, 213MB $225, Maxtor 340MB $330, 520MB Fujitisu IDE 256k Cache 12ms 5 yr warranty $725. CD-ROM w/ card $185. soundcard w/spkr & microphone soundblaster compatible $75. 5 CDROM titles for $89. We do Repairs, trade for upgrading, Memory Uprgrades, Optical Drives, & MathCO Tape backup 250MB w/ tape $175. 16 bit soundcard w/ microphone, speaker, software $139. Bundle 286 Conner HD w/ 120 tape backup $320. Toner cartridges for laser printer or copiers new/used, start at $35. We buy used HD and memories. (408)997-8380. For vendors (408)997-6944.

MacII, 8/40 w/dual page 20" monitor, modem, Hi-Res (415 dpi) PostScript printer, software $1950 (OBO). (408) 727-8338.

UNITEK Hard Disk Repair. CONNER, SEAGATE, MAXTOR, PRIAM 40-59 $2.50/MB, 60-79 $2.25/MB, 80-99 $2.00/MB, 100-149 $1.75/MB, 150-199 $1.50/MB, 200-299 $1.25/MB, 300-399 $1.05/MB, 400-599 $.95/MB. Call Now! (408)395-0382.

Hardware

CLEARANCE SALE. BLOWOUT PRICES!!!!!!! Powerbook D 2104/80 w/ext drive & adapter, like new $1250. Watch TV Video Board w/ headphones $100. HP Serial Paint Jet $400. USR 96/96 Fax/Modem $129. Timktu for Windows/Mac 95/95. IBM original PC - $79; 1 MB memory card (expandable to 4MB) for HP Laserjet II & III printers - $69. Supermac 8-bit video cards $69; 40MB ext. HD for Mac w/ carry case - $179; Mactops 3.1 - $79; IBM OS/2 - 5.25" - $69; M/S DOS 5.0 upgrade - $40; Kanai print sharing box, Procom 1.2 MB ext. FD for PS/2 $100, HP tax font $89, Compaq LTE battery pack $69, IBM SDLC adapters $49, Epson LQ1050 tractor $39- Please make an offer for any or all equipment. Please call Gigabytes at (510) 440-8032 or fax us at (510) 440-9099. WE ALSO DO REPAIRS AND UPGRADES AT VERY COMPETITIVE PRICES - JUST GIVE US A CALL AND WE WILL GIVE YOU A QUOTE!

Apple/MAC Products at Great Prices! We carry used Macintosh and compatible equipment. Please call or fax or for more info or pricing- GIGABYTES (510)440-8032, Fax (510)440-9099. We also do repairs!

DONATE YOUR COMPUTERS to a genuine non-profit organization. We'll put it to work training students in a school or rehabilitation center. Get Tax Benefits and a Good Feeling! (415) 964-4064 the Computer Recycling Center, Inc.

BUY AT DISCOUNT! PowerBook batteries & rapid-charger/conditioners-fully guaranteed; servcice, convenience & low prices., HUDSON BAY 1-800-447-0400.

FLEXI ELECTRONICS. Tel. (408) 226-1536 fax (408) 226-2791. Complete systems, best rate. 386DX-40 $859. 486DX-33 $1279. 486DX-50 $1399. 486DX2-66 $1489. Get your cash discount on bulk orders.

Cash for APPLE IIe/IIc/IIgs, ImageWriters, Mac's, dead or alive. 1-800-800-0525. Computers for Schools.

Macintosh Simms Memory Chips. + meg configuration only. $20. Call Bob at (415) 386-3875.

HP95LX-1MB. Must sell, $600/OBO, ConnPack $90, 3-1/2 Ext FDD $300, PC3000/flashcards, S/W Driver. JEFF (415) 583-3692.

HP PaintJet serial printer, still in box. $550/OBO. (510) 833-8626.

HP Paintjet Printer - Pro-Color Graphics. HP's best color printer. $425. (415) 775-9305.

Mac LC 2/40 12" color 2-4MG Sim. 120MB external HD, HP Deskwriter, Abaton full page scanner with OCR, lots of software. (415) 389-5958.

Hardware

DataSystem 14.4K FaxModem. With 16550 VART CHIP. 5 year warranty. (415) 922-4366. $159.

486DX2-66VLB. 4MB/250MB. CD-ROM. Tape Backup. ASP16. Vid-Blaster. Scanner. Sony 1604S. $3800. (415) 441-2160.

Powerbook 386-25, 60MB HD, 1.44MB floppy, Modem, Mouse, DOS & Windows, MS-works, Wordperfect. $1,200. Thuy (408) 281-2967.

486SX 33MHZ Tower 240HD 8M RAM, 14" Viewsonic NT Color Monitor, Diamond Star SVGA card, 3.5, 5.25 floppy, extend program keyboard $1500. (415) 925-8978.

Intel Satisfaction 400 Internal Fax/Modem - 14,400. Like new, in original box. $225. Eric (408) 266-8801.

Okidata Micro. 92 Printer, 9-pin. Like new. $100. Ken (eves) 415-322-1378 or (days) 415-940-6474.

Roland LAPC-1 MIDI Board $205. Maxtor 340MB SCSI Drive $300. Mediavision Pro Movie Spectrum $150. MS-Word (Mac) $150. ATI Graphics Ultra Pro $225. (415) 336-5837.

ATARI 1040ST 20MB HD two 3 1/2 drives color/ BW monitors modem Okidata printer software. $600. (510) 933-5786.

XT8760E 699MB Hard Disk + Ultrastor U12F Controller. Ask $550/OBO. Call (408) 956-9705.

Logical Connection 100 Printer Sharer $200. Nth 350 Graphics Engine + VGA $150. (707) 257-8310.

Motherboard, Intel 486-25/256 Cache. 1-8 bit, 7-16 bit slots. $300. (415) 345-7325.

HARD DRIVE 200MB $150/OBO. 80MB $80/OBO. A.J. (408) 956-8880.

TOSHIBA STUFF: Numeric keypad for Laptops, new, $50. 768K RAM card for T1000 $95. (415) 456-5655.

SVGA Monitor 20". Hi-Res 1280x1024 0.28dp w/ 2MB, Hi-graphics card. $500. (415) 468-8423.

IBM for Export. Low USA prices. Fax Jason McDonald. Fax (510) 549-9767. Tel. (510) 464-4539.

LASER PRINTER. HP LJIII compatible, Epson AL 1500, scalable fonts, virtually new, $595 firm. Bill (415) 964-0167.

NOTEBOOK, Compaq LTE 386s 20, 60MB HDD, 10MB memory and coprocessor. Was over $4000, yours for $1200. Call (510) 672-3819.

NE3200's; 1Mx9 SIMMs; Maxtor Optical Cartridges; Actix GraphicsEngine VGA; Xircom Parallel Arcnet Adapters. Jeff (510) 527-7578.

Hardware

486DX2/66, 4MB RAM, 340MB HD 64K Cache. 2-floppy, ATI Video Card w/ 1MB, 15" SVGA NI, SE250 Tape Backup, Mid-tower case. 101KB & mouse. $1700/OBO. (415) 468-8423.

APPLE WHOLESALE PRICES. Order new Apple with warranty from OMNIBUS and save money over retail (duh), discount (sure), mail order (really?). 510-430-2706. 800-878-2498 (lv. message). 510-430-2709 (fax).

MacIIsi 3/40, 13" color monitor & extended keyboard for $1205. Call (415) 948-6569.

Macintosh 512K, trackball mouse, numeric keypad. $250/OBO. (415) 244-9254.

386 COMPATIBLE PC, VGA monitor, 2 hi. FD, New keyboard/softwares, more! $650. (415) 391-6093 William.

IBM PCjr, printer, color monitor, software $150. IBM PC, monochrome, 2FD $100. Paul (510) 537-3155.

HARD DRIVE
Wholesale Price
300MB and above
Perfect for File Server
Call (415) 858-2680
Fax (415) 858-2840

TOP $$$ PAID!!!

- SIMM Memory 1Mx3, 4Mx9 70ns
- CPU 486 DX, DX2
- Good or Defective

Call Peter at (415) 564-4347
7:00 – 11:00 pm. Seven days a week.

Hardware

IBM 14" VGA monitor. Hi-res. excellent condition. $125. (415) 390-4426.

286-20 1MB, 40MB HD, 1.2FD I/O 101KB 14' NANAO EGA monitor. All in good condition. Ask $295. Janet (408) 452-1960.

SVGA monitor. 0.28mmap 1024x786 res. New in box. $195. (408) 252-9012.

Hardware

HP PaintJet XL300 PS printer. Brand new. 11x17 postscript color printer. Lots of toner. $3000/OBO. (415) 486-4741.

SUN 3/160, 3/140, 3/50, 3/75; Data Cartridges QG 112M, P6-120MP; Tops Flash Box; MacPlus 1MB; IBM Proprinter IIIXL; 3M & Carlisle 45 & 150MB Data Cartridges; Nextstation w/ monitor; assorted memory chips (SIMMS). Jim (510) 494-8411 x11.

MICROTIMES 510
934
CLASSIFIEDS 3700

C.G.I. TECHNOLOGY

–We **Buy & Sell** IBM, IBM compatible, Mac, CPU, memory, Hard Disk, 386 & 486 Motherboards
–We Buy non-working Simms & Sipps
Tel: (408) 973-9840 Fax: (408) 973-8710

WHOLESALE – LET'S MAKE A DEAL

Hard Drive Special

1.7GB Maxtor	$1235	420MB HD	$449
1.3 SCSI, 5 year warranty	$945	340MB IDE WD	$329
1GB Toshiba	$885	250MB Conner	$245
510MB IDE	$565	170MB Conner	$190
Bar code scanner (w/decoder and cable wand)	$279	Wyse terminal	CALL
		1x3 memory chip	$57
Cash registers w/rect. printers	CALL	4x9 memory chip	$175
Networking: easy network for 4 PCs	$495	LQ1070	$389
easy network for 8 PCs	$565	Network Card	$54
Remote power on/off	$160	We sell 386/486 systems	CALL

We do repair and service.

Call for laserprinters, scanners, memory upgrade, networking, software, CD-ROM, local bus, bar coding. Thousands of computer products.

408 997-8380 Dealer call 408 997-6944

See our ad under Wholesale Prices

DISK DRIVE SALE

Exclusive Macintosh Specials

AbatonScanner, OCR
$295
Adobe Photoshop 2.0
$149
NEC CD-ROM Drives Multi-media
from $159
Tahiti-1 Erasable 1GB Optical
$1295
Maxtor 213 MB, 3.5"
$229

PC Hard Drives And More...

Maxtor, 340MB IDE
$295
True Color VGA Cards
$69
Seagate 320MB, SCSI, NEW
$295
NEW-AK-47 VESA SCSI-IIData Blaster
$149
Ethernet Cards
4 for $99

500 Lawrence Expressway,
Sunnyvale
Opposite Wierd Stuff

Disk○Drive○Depot

OPEN M-F 10:30-6:30, SAT 11-6
Quantity Discounts! Trade-In Credit!
PRICES SUBJECT TO CHANGE

738-3895

Classifieds

Hardware

The Clone ZONE

1555 Third Avenue
Walnut Creek

DRIVES

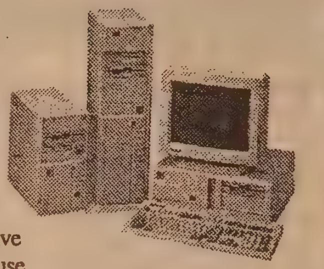
Sound Blaster CD ROM DRIVES	$259
Summit 250 MB Tape BU Win Soft. Inc.	$225
Summit 305 MB Tape BU	$275

Training Courses Available
On Site or In House Service

LOCAL BUS SYSTEMS

486 DX/33

Local Bus Video Controller Card
Minitower Case
130 MB IDE Harddrive
101 Keyboard & Mouse
1.2 & 1.44 Floppy Drives
4 Megs of Ram
Scrial Mouse



$1399.00

The Clone ZONE

Surplus Items Wanted!
• Systems • CPU's • Printers •
• Memory • Harddrives •

HP Laser Jet Series II 1 Meg modules	$65
Conner 120 MB IDE Hard Drives	$159
HP Laser Jet Printer Series II	$795

1-800-OK-CLONE (1-800-652-5663)
510-935-5203 Fax 510-935-1451

NEW 14.4K FAX/MODEMS at DISCOUNT

UPGRADE to 14,400bps starting from $185 and up. AT&T, Hayes, Practical Peripherals, DigiCom, US Robotics, ZyXEL and others. S/W Included. 16,550 AFNs available. Visa/MC accepted. FREE shipping via UPS.

To order Call: **800-795-4756**

Four 4MBx9/70-NS SIMMS. $750/OBO. Very flexible on price. Call Phil at (415) 776-1661.

LASER PRINTERS SALE. Recond. Laser Printers Exc. Condition. Apple L/writer IINT (Mac/IBM Comp.P/script) $1400. HP Laserjet II $795. HP Laserjet+ $475. HP Laserjet (2686A) Immac Condition $425. NEC Laserjet IP2 (new, never used) $495. Qume Laser Ten Plus (Postscript 10ppm) $1500. HP New L/jet 4 (w/ purch. of 2 reman carts) $1325. LCI (510) 893-7001. M-F 9am-5:30pm. (For others please call).

Hardware Wanted

I buy used computers and parts. Top money paid. Please call Ernesto (415) 668-2318.

Don't toss the old computer! Put it to good use in a worthwhile cause. Looking for computers and helpmates to set up a WORLD NETWORK of penfriends and resources. Have 30,000 letters from around the world to start. Tremendous potential! Marie (415) 337-4261.

HP Laserjet III. PCR 408-453-9322.

Apple IIe and GS Donations for children's literacy project. Tax deductible. Media Learning Center (415) 456-4854.

Top $$$ paid. Memory, disk drive, CPU. Sun and PC. (408) 955-9080.

WANTED: Working Mac Keyboard, computer monitor for growing non-profit organization. Tax deductible donation. Call NURTURE (408) 722-8780.

PLEASE HELP!! The Orchid Database, a nonprofit conservation organization, needs hard drives, portables, and other hardware. Donations are tax deductible. Please call 1-510-235-8815.

Repairs

Bay Tool Electronics Co.
Monitor & Terminal Repair.
All Brands, $65/each, most parts free. 180 day warranty.
BEST IN BAY AREA!
(415) 637-3968
957-R Industrial Road
San Carlos, CA 94070

REPAIR MEMORY MODULE'S
256K, 1MB, 4MB SIMM, SIPP
◆ QUICK RETURN ◆
REPAIR LABOR: $5.00 (3 CHIPS) / $8.00 (9 CHIPS)
PLUS PARTS

BUY /SELL/TRADE
CALL FOR MORE INFORMATION
JET-COMP ENTERPRISES
44061 SO. GRIMMER BLVD.
FREMONT, CA 94538
TEL: (510) 770-9078 FAX: (510) 770-9060

MAC tronics

- New & Used Systems
- Apple printer & monitor repair
- Macintosh Computer repair
- IBM to MAC Data Transfer
- Software Training
- Data Recovery

We buy used Macintosh Equipment

45999 Warm Springs Blvd. Suite Nine • Fremont, Ca. 94539 • (510) 438-0833

Macintosh & Monitor Repair...

Logic Board/ P.S. :	Monitor:
*MAC Plus/ Classic I/II	*17" - 21" Color Monitor
*MAC SE/SE 30	*Hitachi, Seiko, Sony, Nanao
*MAC IIx/IIcx	*SVGA, VGA, EGA, Mono
*MAC IIsi/IIci	*Terminal, Sun Workstation
*800K & 1.4MB Floppy	*Apple 12" & 13" Monitor

B&T SERVICES
3764 Polton Place Way., San Jose, CA 95121
TEL: (408) 223-2722 FAX: (408) 274-7837

COMPUTER REPAIR
FREE DIAGNOSTIC

WHY PAY $40, $50 or MORE

Computer Training Academy will run a thorough diagnostic service check absolutely FREE!! Call Now for an appointment to have your equipment evaluated Today!

408-441-6990 ask for Mr. Stevens

CTA Inc.

Miscellaneous

Save up to 50% on short notice airfares, guaranteed lowest price. Call (408) 268-1497.

Personals

Sexual Dates Bay Area Men/ Women/Gay/Lesbian/Bi-Sex Females. 1-900-844-2121 ($1.95 per minute).

Repairs

LASERWRITERS and MACINTOSH Systems repair and upgrade. On-site & while you wait service. Free p/u & del. in SF. 3139A Geary THE TOTAL MAC (415) 386-4320.

Repairs

ON-SITE PC REPAIR. No travel charge, in San Jose. HATCH CONCEPTS (408) 226-2625.

Repairs

PC Repair IBM, PC's or compatible. Upgrade, house calls, free diagnosis. Guaranteed lowest price. Networking. (408) 997-6944.

Repairs

MONITOR REPAIR

ANY BRAND, BIG SCREEN, ANY SIZE, ANY MODEL, MONO, COLOR, SUN, MAC, MONITHERM, APPLE, NEC, PANASONIC, MIRROW, IBM, TOSHIBA, CORNERSTON, PC REPAIR, UPGRADE, RAM, DRIVE, INSTALLATION.

BUY & SELL USED MONITORS

TWO DAYS TURNAROUND. FREE ESTIMATE, FREE PICK UP & DELIVERY, FREE DIAGNOSTIC, 120 DAYS WARRANTY

ATCOM
479 MONTAGUE EXP.
MILPITAS, CA 95035
TEL (408) 956-2010
BEEPER (408) 229-4803
FAX (408) 262-8716

MONITOR REPAIR

Any brand, Big Screen TV, SVGA, VGA, EGA, mono
two days turnaround, free estimate
free pick-up, free delivery.
We service TV's, Sony and Mitsubishi, in-house/service calls.
120 days warranty parts & labor except for FPT, CRT.

Lee's Repair
337 N. Abbott Ave.
Milpitas, CA 95035
Ph (408) 263-6020
Fax (408) 263-2037

MONITOR REPAIR

- Any size, any brand & specialized in BIG Screen & Terminal.
- Two days quick turn-around, 120 days warranty parts & labor.
- Free estimate, free local pick-up & delivery, Guaranteed Lowest Price.
- Systems upgrade & sale, trade new & used monitors.
- Systems & Monitor maintenance contact welcome.
- Expert in IBM, Apple, Workstations, Network & PCB repairs.

Paraside Computer Service & Repair
3400 De La Cruz Blvd., Suite #M, Santa Clara, CA 95054
TEL: (408) 988-2339
FAX: (408) 988-0928

MONITOR & TERMINAL REPAIR

ANY SIZE, ANY BRAND USED BY
PC, MAC, WORSTATION or MAIN FRAME
Color, SVGA, VGA, EGA, CGA & Mono
Lowest price * Free estimate * Free pickup * Free Delivery
Fast Turnaround * 4-Months warranty
Individual, Corporation, Manufacturer Welcome
SELL NEW & USE MONITORS, GRAPHICS CARDS

California Monitor Services
4661-A Lafayette St., Santa Clara, CA 95054
TEL: (408) 986-8327 FAX: (408) 986-8328

Classifieds

Repairs

LaserDoc
Your One Stop Repair Center
Laser Printers-Computers-Networking
PC Copiers-Toner Cartridge Recycling
2355 Oakland Rd. Suite 1K S.J. CA 95131
Phone: (408) 428-0556 Fax: (408) 428-0533
Loaners Available
Free Pickup Delivery

C:\Computer & Monitor Sale & Repair
State Reg. No. E29924
$75 + Parts*
PC Compatibles & Macintosh
Monitors & Printers
SERVICE CITY
1655 Whipple Rd.
Suite 22, Hayward, CA 94544
(510) 475-0747
Fax (510) 475-7739
*Carry-in service rate. tm055

Repairs for IBM / PC Clone computers. (510) 644-9368.

PC Repair - Upgrade. Free estimate. $25 flat rate + parts. On-site service available. (510) 693-0317.

Expert PC Help. Installation and configuration assistance, purchasing recommendations, problem solving, repair of PC, monitors, laser printers, etc. DOS, UNIX, LINUX, networks, etc. Affordable satisfaction guaranteed. (510) 283-6264.

Monitor and Terminal Repair. $75 Most Models. Warranty. 30 years experience. Call Beyond Repairs, 510/783-6805.

CA. Systems
COMPUTER and PRINTER REPAIR
Your office or our shop
DOS, MAC, Novell, UNIX
We have used and rebuilt computers for sale.
(415) 365-1316

Services

DEENS ELECTRONICS PH: 510-657-5439; 510-713-1975
LASER PRINTER PARTS, SALES & SERVICE FAX: 510-657-6079; 415-966-1081
HP, APPLE, CANNON, PANASONIC, ETC.
24 HOUR TURNAROUND TIME.
COST EFFICIENT ONSITE SERVICE.
120 DAYS WARRANTY.
WE BUY, SELL USED PRINTERS, FUSERS, ROLLERS, CARTRIDGES, ELECTRONIC ASSEMBLIES AND PARTS.
SUMMER SPECIAL
SX FUSER REPAIR/EXCH.-$48
AVAILABLE IN SEPTEMBER
SX FUSER ROLLERS $4.95

Don't Delay, Do it Today!!!
DUPLICATION
IBM OS/2 • MACINTOSH • APPLE
COMMODORE • UNIX
CD ROM
24 Hour Turnaround.
Fastest in the West,
No Minimums!!! Custom Printed
Tyvek Sleeves & Labels
Optical Text Scanning
I.D. DISK CO. 415-883-4628
NATIONWIDE 1-800-987-7509

DATA RECOVERY
Specializing in DOS, NOVELL, & MACINTOSH.
Self Engineered Tools Provide Over 90% Success Rate • Competitive Prices
Micro Storage
2245 First Street, Suite 116
Simi Valley, CA 93065
Tel (805) 582-9101
Fax (805) 582-9102

Services

WE WILL BEAT ANY ADVERTISED REPAIR & SALE PRICE

HARD DRIVE CAPACITY	REPAIR PRICE MFM/ IDE/RLL	REPAIR PRICE ESDI/ SCSI	*DATA RECOVERY MFM/RLL/IDE ESDI/SCSI
10 – 19MB	$40	$45	$180
20 – 29MB	$45	$50	$230
30 – 39MB	$55	$60	$280
40 – 49MB	$65	$70	$330
50 – 85MB	$90	$95	$380
86 –119MB	$100	$105	$430
120 –160MB	$110	$115	$480
161 –230MB	$130	$135	$530
231 –330MB	$160	$160	$580
331 –430MB	$200	$205	$630
431 –700MB	$230	$235	$680

* Data recovery includes repair of the drive.
*No charge if we are unable to recover data.

FLOPPY DRIVE REPAIR PRICE
5.25" (360K & 1.2MB)............$20
3.5" (720K & 1.4MB).............$25
3.5" PS/2 (720K & 1.4MB).....$35

INSTALLATION
HARD DRIVE........$30
FLOPPY DRIVE....$15

MONITOR REPAIR PRICE (12" & 14")

MONITOR QUANTITY	1	2-5	6-10	11+
Any Mono	$39	37	35	33
Any CGA	$55	53	51	49
Any EGA	$59	57	55	53
Any VGA	$69	67	65	63
Any Super VGA	$75	73	71	69
Any Multisync	$89	87	85	83
Any Mono Terminal	$65	63	61	59
Any Color Terminal	$89	87	85	83

CRT AND FLYBACKS EXCLUDED
FREE Pick-up & Delivery in O.C. if More Than Five Monitors

SPECIAL SALE OF THE MONTH
HARD DRIVE

CONNNER/MAXTOR/SEAGATE/ WESTERN DIGITAL

130MB	IDE	NEW	$165
170MB	IDE	NEW	$185
210MB	IDE	NEW	$199
245MB	IDE	NEW	$225
260MB	IDE	NEW	$229
340MB	IDE	NEW	$289
450MB	IDE	NEW	$469

Maxtor	40MB	IDE	REF.	$90
Quantum	50MB	IDE	REF.	$95
TEAC	105MB	IDE	REF.	$135
Seagate	20MB	MFM	REF.	$55
Seagate	40MB	MFM	REF.	$85
Seagate	30MB	RLL	REF.	$60
Tandon	40MB	RLL	REF.	$65
Miniscribe	20MB	SCSI	REF.	$50

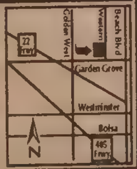
*1 Year Warranty On New Hard Drive. *6 Months Warranty On Refurbished Drive.

FLOPPY
1.2MB TEAC NEW $46
1.44MB TEAC NEW $41
(1.2; 1.44MB) REF. ($35;$39)

CONTROLLER
MFM (AT or XT) $39
RLL (AT or XT) $39
IDE w/I/O $14

PRO COMPUTER COMPANY

12761 Western Ave., Suite B
Garden Grove, CA 92641
Tel.: (714) 891-8293
Fax: (714) 891-3269
Business Hours:
8:30am to 6:00pm Mon. thru Fri.
Sat. 10:00am to 4:00pm



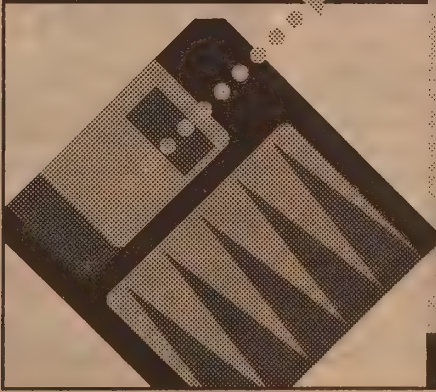
DATA RECOVERY
24 Hour Turnaround • Free Estimate
DATA-ONE
(408) 434-1002
940 Rincon Cir. San Jose
(HWY 880 & Montague)
9-5 Mon thru Fri

FOR HIRE... Typist--2,500 WPM

Any Printed Material Into Any IBM or Mac Program...FAST!
1-800-300-SCAN
Same Day Service
Why buy expensive hardware and software?
Use our cost-effective quality service.
SCAN TYPE™
Scanning/OCR Services

DATA RECOVERY SERVICES
★Specializing in data retrieval from hard drives with electronic or mechanical failures
★Comprehensive software data recovery from **hard drives, floppies,** and **tape**
★Over 2,000 successful data recoveries
DRS
DRIVE REPAIR SERVICES
DATA RECOVERY and DISK DRIVE REPAIR
–2122 Adams Ave. San Leandro, Ca. 94577
–(510) 430-0595 FAX (510) 430-0145
–6151 Golfview Dr. Bloomfield Hills, Mi. 48301
–(313) 645-6211
DOS – NOVELL – UNIX – MAC – OS/2

SOFTWARE DUPLICATION



Complete Software Manufacturing Solutions
- Duplication 100% Guaranteed
- Highest Quality Media & Equipment
- 24-Hour Turnaround
- Custom Labels/Sleeves/Manuals
- Packaging, Assembling & Shrink-Wrapping
- Warehouse & Fulfillment
- Graphic Design & Advertising Services
- Ultra-Competitive Prices

APC, Inc.
29620 Union City Blvd. Union City, CA 94587
Local 510-489-8677 Fax 510-489-8678
800-666-1007

Inexpensive printer repair. Dot Matrix, HP Laserjets, Daisywheel Printers. Please call (415)668-2318.

PHOTOGRAPHY FOR BUSINESS. Computers, lots more comercial experience. Call Len Cook for reasonable bid. (510)790-6079.

Do you need computer repairs and upgades at a reasonable cost? Call us for free estimates and on-site service. Certified Apple, IBM, HP Technicians. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

DATA RECOVERY. Drives-Tapes-Optical. WE service all platforms. Authorized Data Recovery service center. GIGABYTES (510) 440-8032.

Mac/IBM Systems & Printers. Rentals, Repairs & Upgrades, Sales - New & Used, PC Support. PCR 408-453-9322.

DATA ENTRY - DATA ENTRY WORKS. $.70-$.80/Hour. Call/ Fax (408) 287-9451.

Software

FREE PRINTED 122 PAGE CATALOG 3400+ IBM Prgms. ASP Vendor Sunshine Software, 6492 South St. Suite 470, Lakewood, CA 90713.

TrueType fonts for Windows 3.1. Shareware. 300/$30. Postscript format also available. (415) 728-5910.

DUPLICATION. Complete software manufacturing services. Unbeatable prices, quality and service. SAICOM (510) 438-4550.

Classifieds Consultants Network

Services

Complete Software Duplication Services
Formats from Apple to Xerox & CD ROM
- 24 Hour Turnaround on most jobs
- Custom labels
- Competitive pricing

MANUAL
IDI
FAST

International Datawares, Inc.
408-262-6660 or 800-222-6032
2278 Trade Zone Blvd., SJ, CA 95131

Slides

Slides $8
4x5 Transparencies
PC Imaging Specialists
Presentation Graphics
Quattro Pro
.TGA .PCX .TIF .GIF
McLain Imaging
tel: (408) 252-6266
bbs: (408) 252-6265

Software

Electronics Tutorial Software Program. Over 1,000 screens, 48 modules of interactive information, schematics and help on DC, AC, analog and digital. Use for job preparation, review, or study. Entire program $30. IBM. (monochrome EGA/VGA). Tutor-Tech, 5591 Kimberly St, San Jose. (408) 252-3223.

Software

FREE IBM SOFTWARE CATALOG, Low Prices, Best Selection, ASP Vendor - BRIGHT IDEA! SOFTWARE, 5339 Prospect Road, Suite 197M, San Jose, CA 95129. VOICE/FAX 408-252-0542.

Ventura Publisher Mac 3.0 $150. Unopened. Wordperfect Office PC $25. Unopened. (510) 283-0898.

Microsoft Word 5.0 for Mac, unopened $75. Wordstar 6.0, unopened $60. Al Lee (415) 752-1540.

MS-Word 5.5 $75; Stacker 3.0 $50, Norton Desktop/DOS $75; PC Tools $10. (408) 224-3350.

PageMaker 5.0 for Windows $480. Never opened. Call John at (408) 249-6252.

Windows for Workgroups Starter Kit. Includes all hardware and software. Unopened, fully registerable. $350. (510) 569-1054.

10 Formal Script Fonts for Windows & WP6.0. 59.95
Script Script Script Script Script Script Script Script Script Script
SUSHI DOG GRAPHICS
P.O. Box 26A54
Los Angeles, CA 90026
(213) 413-4642

Novell Netware v3.11 20-user. Two packages left in stock. $1600 new. Out of business. (415) 343-7659.

Windows Discount Shareware offers your choice of 2,700 Windows programs shipped on 1.44 MEG disks. Don't pay $1.00 to $4.00 when we distribute exactly the same thing for only 35 CENTS each. Latest versions, virus free. 100 to 250 added monthly. Thousands of satisfied customers worldwide. For 1.44 MEG directory disk listing all 2,700 Windows programs, viewable on screen, send $2.00 to PO Box 1912, Binghamton, NY 13902-1912.

R & R Report Writer for Windows - XBase Edition $90. (415) 267-7567.

Asian Nudes! Exotic women of the Orient! $5 for 1.44MB sampler. Cyber-Graphix, 2040 Polk #317M, San Francisco, CA 94109. Must state over 21!

UNIX and IBM Mainframe Connectivity Solution for downsizing to PC or Workstation. Great ROI. (408) 996-7579.

Fractal design Painter 2.0 for Windows. Brand new. Unregistered. $200. (415) 584-6045.

Paradox 4.0 $350 / Turbopascal Windows $40 / Legal. (415) 861-6821 ext. 46.

Scan&Type for Windows 3.1. Scan, Fill, FAX, Print your forms!! Easy to use! $129. (415) 854-4865.

Software Wanted

NEW SOFTWARE PRODUCTS WANTED.. To acquire/license...By Small Successful Software Co...fax brief synopsis of software capabilities & target market to: PERFECT NICHE SOFTWARE, INC. Fax: (415) 331-4200.

WANTED: AutoFast +. Please call (408) 946-9587.

Accounting

Profit Improvement and Decision Making Help, Cash Management, Installing Accounting Systems, Business Plans, LEN MARSH, Part-time CFO 415-286-7527.

Engineering

Analog/Digital/Circuit/Systems Design. Software: Assembly/"C" . Call for details. FTE, Inc., Fred Tanaka (510) 782-4223.

PRODUCTION TEST FIXTURES AND SOFTWARE. ON TIME, OR IT'S FREE! MEYER ENGINEERING. (408) 476-9024.

Form & Function
PRODUCT DESIGN
INDUSTRIAL DESIGN
MECHANICAL DESIGN
CAD DRAFTING
408.243.4884

Ludiek Design Inc
Turn-key Engineering Services
Mechanical ~ Hardware
Software ~ PC Boards
Technical Documentation
Ph/FAX 408/462-2722
3567 Benton Street, Suite 363, Santa Clara, CA 95051

General

Macintosh Wrangler, Tame your ornery Mac problems. Purchase advice, set up, one on one training, networks. Installs/upgrades by Apple certified technician. Call Frank at Yoyodyne Systems (415) 879-0285.

First computer aid for design, set-up, training, troubleshooting, data protection and networking of your micro PC system. $20/hour. (209) 522-5192.

PC & NETWORK ASSISTANCE. DOS, WINDOWS, NOVELL. SETUP, INSTALLATION, OPTIMIZATION OF CURRENT SYSTEMS. GENERAL PC DEBUGGING & REPAIR. PURCHASING ASSISTANCE. ONE HOUR FREE ON SITE SERVICE. REASONABLE RATES. (415) 355-8548.

Expert PC Help. Installation and configuration assistance, purchasing recommendations, problem solving, repair of PC, monitors, laser printers, etc. DOS, UNIX, LINUX, networks, etc. Affordable satisfaction guaranteed. (510) 283-6264.

Intimidated by your new computer? Patient consultant will provide friendly help setting up your system. No question too dumb! Hackworth & Company (415) 341-2674.

STATISTICAL ANALYSIS AND PROGRAMMING. Forecasting, Simulation, Expert Systems, Marketing Research. Decision Support expertise since 1974. Free consultation. Analytix (408) 972-5424.

General

Professional Technical Services
DOS, Windows & OS/2 support for business
● Setup & configuration ● Networks ● Communications ●
● On-site support ● Data recovery ● Programming ● Debugging ●
Database & Spreadsheet programming - *Excel & Paradox*
On-site support available 24 hours a day - 7 days a week
John Purins 415-340-1744

INEXPENSIVE NOVELL NETWORKS
- System Design and Installation
- Software Configuration
- Cabling Installation
- Service and Support

References available
EASY Computing
Free Initial Consultation
(415) 668-2318

GET MORE OUT OF YOUR COMPUTER!
Friendly computer wizard with experience will help maximize your use of: ■ Accounting ■ Word Processing ■ Database ■ Spread Sheet
Free first consultation • Sampson Information Systems
415/469-9852

MERIT
Software Systems
Software development in Clipper, Paradox, C++ for DOS/Windows. Network Installation.
(707) 552-2618

Programming

Programming, Assembly, 8096 8051. Free TANGO-ROUTE PRO demo at your site. Labtex, (408) 377-4824; fax (408) 559-7630.

FILEMAKER PRO FOR MACS & PC'S. We specialize in database programming for small businesses. We can either teach you how to use Filemaker, or we can set up a database for you to use. We also use Excel, Word, Quark, Pagemaker, Access, Wordperfect, Foxbase+, and others. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

Costly to get help? From your idea to software package. ARYAN (415) 928-7125.

LAN

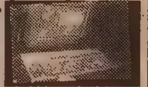
NOVELL SPECIALIST
-Install, Service, Troubleshoot
-Custom Network Software
-Backup Service & Data Recovery
-Certified NetWare Engineers
ABSOLIC COMPUTING
(415) 858-2680

Microscale Networkings
Novell Certified NetWare Engineer
-Small Office Installation
-Flat Rate
-Free Consultation
-Service and Support
(415) 334-2307
pager (415) 201-2798

NOVELL NETWORKS, CNE.
- Design and Installation
- Hardware and Software Configuration
- Support and Service
- Free Consultation

COMTEQ COMPUTER CO.
(408) 988-4440

BEST CHOICE NETWORKING
- LANS SETUP
- NOVELL
- UNIX
- GATEWAYS
- LANTASTIC



CALL ABOUT COMPETITIVE PRICING
(415) 587-3012

Cesco Network Engineering
Design, Install, Maintain, Train
Novell, LanMan, Banyan, Unix
Bridges, Routers, Hubs, GtWys
3Com, Cisco, Synoptics
Competitive Rates
(408) 223-0980

LANtastic Networks. Installation & Configuration. PC Consulting & System Integration. Paradigm Micro Systems. (510) 357-1042.

INTERLINK
Professional Network Consultants
·Installations ·Design ·LAN Migrations
·Maintenance ·Add-Ons ·Diagnostics
NOVELL.
·Low Rates (Hr/Flat) ·Free Estimates

STARTER KITS	SERVICES
»30 DAY FREE SUPPORT«	·NetWare (3.X,4.0,Lite)
5User Kit ......$1199.00 *(NetWare 3.11 & 3C509)*	·Multi-Protocol LAN's
2User Kit ....$399.00 *(NetWare Lite & 3c509)* Labor Not Included	·FDDI/10BASE-T/Coax ·TCP/IP (ODI or NDIS) ·DOS/OS-2/Windows

*Prices subject to change w/o notice
*All trademarks belong to respective owners
(408) 243-4223

MICROTIMES
CLASSIFIEDS
CALL
510
934
3700

Consultants Network

Programming

only the Best or the No. 1

TeleMagic Number One in Sales and Business Automation. It's Flexible, Customizable, Easy to Learn & Use!

NetWare The No. 1 istalled base, the Undisputed Champion of Highest-Performance, 32-bit Network O.S.

plus UnixWare, SCO UNIX, EDI for Windows, Accounting software, FAX server, CD-ROM server, and Multimedia CD.

Novell Authorized Reseller

AUTHORIZED TELEMAGIC MARKETING PARTNERS

We provide: design, installation, setup, support & service.

V88 Systems, Inc. 1538 Centre Pointe Dr., Milpitas, CA 95035 (408) 957-5738

Legal

INCORPORATION. Nevada $399, CA $299. Do yourself books Trademark, Copyright, Patent (408)559-3949.

IMMIGRATION

Law Offices of Paul M. Heller
Specializing in
Labor Certification & Work Visas
for
Engineering, Computer, Accounting, Business, & other Professionals.

Also: family visa/US spousal cases; change to student (F-1) status; Treaty Trader/Investor (E-1/E-2); Intra-company transferee (L-1).

Individual, Bus. & Corp. Clients

Free Consultation!

415-291-8000

Programming

CUSTOM DATABASES FoxPro, FoxBase, dBase, Clipper, Paradox. Multi-user systems, software modifications, code generators, PC/LAN, SBT. Walter St. John: voice (510) 548-0129; pager (510) 310-2080.

Software Engineering & Design. Specializing in SCSI drivers and Macintosh applications. Experience with Think C++ 6.0, 680x0 assembly, MPW, and ResEdit. Call Michael at Willow Software. 408/748-8540.

NEED HELP WITH WINHELP? Save time and money making your WinHelp files AND get a better product. How? TroCom makes GUI WinHelp files as its only business. Call JC at 415-948-2009 for a FREE consultation or quotation.

50% OFF YOUR COST. DATA ENTRY, S/W DEVELOPMENT, DOS AS/400 WINDOWS. CONTACT FAR EAST DATA CO. TEL. & FAX (408) 249-8344.

Custom Business Applications. Databases, DOS/Windows/MAC, networking. Personal attention to specific needs. CrossLands Technologies (408) 245-4966. Fax (408) 245-4711.

OBJECT-ORIENTED DESIGN AND DEVELOPMENT. We build C/C++ commercial applications. Free consultation. ObjectSource (408) 972-5424.

BAR CODE INVENTORY. Efficient "C" Systems. Quick Delivery. National References. 1-800-872-1182.

MACINTOSH MY SPECIALTY
Spreadsheet • Database • System Programming
Installation, training, troubleshooting
purchase advice – Mac and PC
Stanford C.S. degree • good references
Ken Brooks 415/856-1224 Palo Alto

Software Solutions Unlimited (408) 236-3723
Fast! Fast!! Mac Prototypes!!!
Fast Mac Application Development!
Software Testing/Quality Assurance: Mac and IBM
Application Porting from DOS/Windows, UNIX, Apple II, etc. (to the Apple Macintosh)
GREG HOLENDA
Prototypes • Applications • Porting • Testing

PARADOX
✓ On-Site Training
✓ Applications
✓ Troubleshooting
OTM ENT. 510-886-1557

Business Applications Programming
Contact Jim at:
(415) 747-0748
Including:
Dbase Clipper FoxPro

CUSTOM PROGRAMMING
- FoxPro
- Clipper
- dBase IV
- Accounting Systems
- Bar Code Systems
- Multi-user

NETWORK INSTALLATIONS
NOVELL.

SINCE 1983 • MEMBER BBB
AccounTech
408/995-5511

Tech Writing

SOFTWARE DEVELOPERS. We will write, illustrate, layout, design, typeset, print YOUR tech pubs. Call 408-559-DESK.

From Concept to camera ready copy. Consulting, writing, editing and desktop publishing. Brochures, manuals or newsletters. Call Communitech. 510-527-6766.

Documentation, customized manuals, help text and training materials for your software or application. Larry (415) 692-0824.

Spanish - Translation-Acccurate technical translation of manuals, instructions, letters messages. Carrali Design (408)737-8196

Training

CA. Systems
Training – Sales – Setup
Support – Installation
Authorized Trainers for:
DacEasy
TeleMagic
One Write Plus
AccPac BPI
AccPac Simply Accounting
Novell System Admin.
SCO Unix System Admin.
monthly classes
(415) 365-2050

MACINTOSH AND IBM-PC TRAINING Learn Windows, Excel, Clarisworks, MS Works, Workperfect, Word, Pagemaker, or Filemaker Pro, at your home or office. Phone: 415-552-5120 San Francisco. Gerald A. Matoi & Assoc.

CLIENT/SERVER COMPUTING TRAINING WORKSHOP: MOVE UP WITH DATABASE TECHNOLOGY. Learn Oracle, Sybase, Gupta and Access in small class. Equip yourself to meet career and downsizing challenges. CompuEd (408) 253-4508.

Flexible, Affordable Instruction
Todays Most Popular Software
Wordperfect, DOS, Lotus 123, MS Word, Windows, Works, etc...
Classes 9-4 Special offer this month
Your site or ours – Prices unbeatable
SST 680 8th Street (415) 252 1840

PC PROGRAMMING FOR EVERYONE! Intensive, affordable and FUN 3&5-day courses teach you LAYOUT FOR DOS, the world's simplest, easiest, most powerful, affordable, productive and complete visual programming system, used by over 140,000 non-programmers and programmers around the world. Layour BEATS ALL OTHER programming languages and tools, because it requires no error-prone coding or scripting. It combines the best of CASE, GUI, OOPS, multimedia, hypertext, DBMS. Intelligently generates fast, custom, error-free single and multi-user programs in ready-to-run EXE, or, if you prefer, source code in a variety of MS and Borland languages, including C, C++, BASIC, and Pascal — all royalty free, with no runtimes. Inexpensive add-on tools provide dBase and Btrieve compatibility and other special features. COURSES ARE TAUGHT AT OUR ELEGANT SF FINANCIAL DISTRICT FACILITY! NO PROGRAMMING EXPERIENCE NEEDED! Call for details about our FREE INFO. SEMINARS, course and software discounts for groups, unemployed persons, teachers, nonprofits & money-back guarantee. Authorized Layout-Reseller. **NEMONIX TECHNOLOGIES**, Citicorp Center, Suite 1900, One Sansome Street, SF, CA 94104. Tel. 415-951-4681.

BUSINESS SOLUTIONS

continued from page 36

longer than competing Flash RAM cards, which suffer from degradation when information is repeatedly erased and rewritten.

Low-power versions of the cards are available for the HP 95LX and 100LX series palmtop computers, in sizes up to 10MB. The HP-compatible products list for $499 for 5MB and $879 for 10MB capacities. The 15MB and 20MB cards are available only in 12-volt versions (more power than is available in the HP100LX series, but usable in subnotebook and other computers with more available power), for $1199 and $1499 retail, respectively.

Interestingly, SunDisk is also making IDE-compatible Flash Disk drives in both the 2.5" and 1.8" form factors for use in notebook and subnotebook computers. Lighter, faster, and lower in power consumption than traditional hard disk drives, the solid-state IDE-compatible drives are available in sizes up to 40MB in capacity. Tandy has also announced that support for the SunDisk Flash RAM cards will be built into the Zoomer PDAs; thus, no drivers will be required to use SunDisk cards (just "plug and play").

IBM has shown prototypes of its Solid State File, which is a similar PCMCIA-based Flash RAM-based filesystem. Unlike the SunDisk card, however, the IBM card is not yet shipping, and the error detection and correction scheme is based on large-sized blocks (32K), unlike the bit-level dynamic error correction present on the SunDisk card, which allows the other card a much longer service lifetime. No prices were available as of press time.

PCMCIA Ethernet

New Media Corporation announced availability of its PCMCIA 2.0-compliant Type I (3.3mm) Ethernet LAN cards. The card features a 64K RAM cache, on-card DMA, 16-bit data transfer, 10BaseT and 10Base 2 interface support, Novell and Windows for Workgroups, NDIS and ODI drivers, and a lifetime warranty. The 10BaseT version is available for $199, and the 10Base2 version, $229.

Chaplet Peripherals has also announced PCMCIA Ethernet adapter cards called (inexplicably) their EgoLAN card. Drivers for Novell, Microsoft LAN Manager, Banyan VINES, Unix (Streams), FTP PC TCP/IP, and NFS (Network File System) are provided. This card is not as thin as the New Media card; it is a Type II card (that means it is 5mm thick). The 10BaseT card is available for $299, and the 10Base 2 version for $319 retail. Chaplet also has a line of PCMCIA RAM cards. ■

Serving You for Over 8 Years!

Hard Disks • Monitors • Printers

MAXTOR

245MB 15ms IDE 7245A	$235
213MB 15ms IDE 7213A	215
340MB 13ms IDE 7345A	299
535MB 13ms SCSI/IDE MXT-540A/S	745
1.2GB SCSI	939
1.7GB SCSI	1149

FUJITSU

525MB IDE/SCSI 11ms	$669
1.2GB SCSI 14ms	1079

CONNER

250MB 14ms IDE CP30254	$235
120MB 19ms IDE 30104	172
213MB 12ms IDE CP30204F	225

WESTERN DIGITAL

250MB 14ms IDE WD2250	$235
120MB 19ms IDE WD2120	195
213MB 15ms IDE WD2200	215
340MB 12ms IDE WD2340	295

QUANTUM

127MB 32K Cache Fast IDE	$173
240MB 256K Cache Fast IDE	245
525MB 11ms IDE	635

CASE & POWER SUPPLY

Minitower 200 Watt	$59
Desktop w/200 Watt	69
Mid Tower w/230 Watt	99
Full Tower w/230 Watt	129

KENSINGTON

Expert Serial Trackball	$99

NEW MICROSOFT

Microsoft Mouse II PS/2 Version	$89
Microsoft Mouse II Serial	75
Microsoft Mouse II Bus	79

Central Point PC TOOLS

For DOS **$129**

New! Version 8

The Most Complete Set of Award-Winning PC Utilities

For Windows

Simplify and Protect Your Work In Windows **$129**

DIGITIZERS

Summagraphics

Summasketch III **NEW**
12"x12" 4-Button Cursor

$289

Summasketch III NEW
12"x18" Pro, 4-Button Cursor

$539

Acecad 5"x5" GRAPHICS TABLET

5"x5" Active Area–Includes 2-Button Stylus-Pen and Utilities Diskette with Custom Mouse, Windows, ADI Drivers, and Windows control panel program.

$119

ViewSonic™

5+	14"	1024X768 .25 NI	$489
6e	14"	1024x768 .28 NI	309
7	17"	1280X1024 .28 NI MAC	889
V17	17"	1280x1024.28NI MACII	1099

NEC

15"	3FGE	NI	1024x768 60Hz	28mm	$599
15"	4FGE	NI	1024x768 76Hz	28mm	699
17"	5FGE	NI	1024x768	28mm	1085
21"	6FG	NI	1280x1024	28mm	2399

MiTAC

17" SVGA NI 1024x768 .31	$509
17" SVGA NI 1280x1024 .26	625

STANDARD TECHNOLOGIES

Super VGA Monitors

- **MSTAN-428-VESA 14" Monitors** 1024x768 Non-Interlaced...$339
- **MSTAN-428D-UVGA 14" Monitors** 1024x768 Non-Interlaced...$289

VIDEO CARDS

Orchid P9000/VLB/3MB	$349
Orchid Fahrenheit VLB	145
Orchid Fahrenheit 1280 Plus VRAM	119
Diamond Viper VLB 2MB VRAM	405
Diamond Speedstar Pro VLB	135
Diamond Stealth 24VLB/ISA	179

APC American Power Conversion

INGRAM MICRO

Backup Power Supplies at Great Prices!

BK250B 200-200VA; back-up power for 386SX, 286SX, 286, XT's and AT's **$109**

BK450 **$199**

BK600 Back-up up power for heavily configured 386, 486 systems: CAD/CAM **$269**

Call for other models!

AP900 Smart-Ups 900
900 VA 286, 386, 486 Servers
Multiple systems, Longer runtime **$589**

LOGITECH ScanMan model 256 & Ansel™ Hand-Held Scanner

ScanMan 256	$179
ScanManColor 16.8 Million Colors	439
ScanMan 256 w/Catchword Pro	219

• Serial Mouseman 400dpi	$69
• Bus Mouseman 400dpi	69
• Cordless Mouseman 400dpi	99
• Serial TRACKMAN	89
• Bus TRACKMAN 320 dpi	79
• First Mouse	39
• Trackman Portable	99

TAMARACK

Professional Flatbed Color Scanner 600dpi, 24 Bit Optional SKT Slide Scanner

ArtiScan™ from Tamarack gives you state-of-the-art resolution and impeccable image quality, 600 dpi, 24 bit per pixel (16 million colors and 256 gray levels). Supports both the PC and the Macintosh. SCSI interface for fast operation.

-w. Publisher 600/800/1200 dpi	$845/1045/1695
-w. Pub. & OCR 600/800/1200 dpi	895/1095/1745
-w. Photostyler 600/800/1200 dpi	995/1195/1845
-w. Photoshop 2.5 600/800/1200	1045/1245/1895

HEWLETT PACKARD

LaserJet 4/4M **$1349/1839**
8ppm, 600x600 dpi, 2/6MB w/Toner

LaserJet 4SI w/Toner **2999**
7ppm, Network Compatible, 1MB

Desk Jet 1200C .... **NEW!**
6PPM 300X300DPI TOY COLOR

LaserJet 4L w/Toner **685**
4ppm, 300 DPI, 1M

DeskJet 550C .... **CALL**
300dpi, Color Ink Jet

DeskJet 500 .... **CALL**

DeskJet Portable **379**

HP TONER CARTRIDGES

HP 92275A HP IIP, IIP+, IIIP	$79
HP 92295A HP IID, II, III, IVD	89
HP 92291A HP ILsi	119
HP 92298A HP4	99

Laser Printer MEMORY!!

	1MB	2MB	3MB	4MB
HPII/IID	N/A	$125	$160	$180
HPIIP/III/IIID/IIIP	N/A	125	160	180
Panasonic KX-P4420	N/A	139	175	189
IBM 4019	109	149	309	N/A
Epson EPL-6000	140	155	190	N/A
Epson EPL-7000	N/A	90	140	N/A
Okidata 400/800	100	150	N/A	N/A
Brother HL-4	130	180	230	280

KX-P4430 Laser Printer

NEW!

$695

- •1MB RAM exp to 5MB
- •PCL-5 Scalable
- •300 dpi resolution •5PPM
- •200 sheet paper capacity

KX-P4410 Laser Printer

$589

5ppm!

- •512K RAM exp. to 4.5MB
- •200 sheet paper capacity
- •300 dpi resolution • 5PPM

KX-P2123

Quiet 24-pin
Color Capable
43.5 dBA!

$235

KX-P2180

Quiet 9-pin
Color Capable
45 dBA

$165

Color Option $49

KX-P2624	24-pin, 300cps, Free ATM	$379
KX-P2124	NEW	319

CITIZEN PRINTERS

GSX-230

- 24-pin printer
- Up to 270cps, 90cps LQ
- 8 Built-in fonts

$239

GSX-240

- 24-pin printer
- Up to 300cps, 99cps LQ
- 13 Built-in fonts, including 2 scalable **$289**

GSX-145 • 132 column printer **$359**

Canon

Perfect for any Notebook or Laptop!

Portable Bubble Jet BJ-10ex

$249

- Prints up to 83cps
- Text & graphics up to 360 dpi
- Uses plain paper & transparencies
- 1-year warranty

BJ-200 Laser Quality... At an InkJet Price

- Prints up to 4ppm
- 7 resident fonts
- 100-page sheet feeder
- Holds up to 10 envelopes

$349

[illegible]

VISA

EVERGREEN COMPUTERS INT. (510) 526-8667

Quality Leader in the East Bay

5 Year Labor 1 Year Parts Systems Warranty

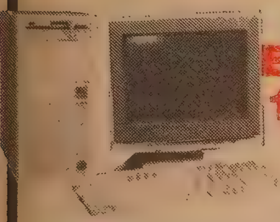
MICRONICS

486-33 VESA LOCAL BUS w/FAHRENHEIT 1280 VESA BUS 245MB Hard Disk Super VGA System

- One Additional Available VESA LV Slot
- Built-In VESA Local Bus 2FD/2HD IDE Controller Card
- 8K Internal, 256K External Cache
- 4MB RAM expandable to 64MB on board
- 245MB IDE Hard Drive Fast
- 14" Super VGA color Monitor (Non-Interlaced 1024x768) .28 dp
- Fahrenheit VESA Local Bus (Windows) Accelerator SVGA Card w/1MB VRAM
- 1.2MB & 1.44MB Floppy Drive
- 101-Key Keyboard
- Tower Case w/300W power supply
- 3-Button High Resolution Mouse

$1749

486-DX2 66MHz System $1969



ECI 386SX-33 120MB Super VGA System

$799

- 2MB RAM expandable to 16MB
- 120MB HARD DRIVE
- 14" Super VGA Color Monitor (1024x768) .39dp
- 512K 16bit SVGA (1024x768) Card
- Math Coprocessor Socket
- 1.2MB and 1.44MB floppy drive
- 2HD/2FD Controller w/2S, 1P, 1G ports
- 101 Enhanced Keyboard
- Mini Vertical case with 200W power supply

MICRONICS

MICRONICS MOTHERBOARD

486DX-33 Local Bus 256K Cache	$359
486DX2-50/66 Local Bus 256K Cache & CPU	699/819

ORCHID MOTHERBOARD

Superboard 486 VLB Local Bus 256K Cache for DX-33, DX2-50, DX2-66 No CPU	$209

ECI MOTHERBOARDS

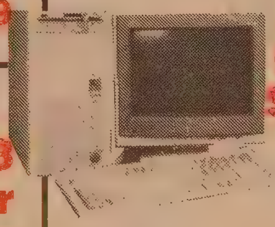
486DX2-66 256K Cache w/CPU	$585
486DX-50 256K Cache w/CPU	525
486DX-33 256K Cache w/CPU	399
486DX-33 256K Cache No CPU	119
386DX-40 64K Cache w/CPU	149
386SX-33 w/CPU	95
486DX-33 DX2-50 DX2-66 256K Cache VESA Local Bus	149

VESA LOCAL BUS 486DX/33MHz Orchid Superboard VLB 245MB Super VGA System

- 8K Internal, 256K External cache
- 4MB RAM expandable to 32MB on board
- 245MB 15ms IDE Hard Drive
- 14" Super VGA color monitor (Non-interlaced 1024x768) .28dp
- 1MB Local Bus Fahrenheit™ VLB Display Card
- 2HD/FD Local Bus VESA IDE Controller Card
- 2S,1P,1G ports
- 1.2 and 1.44MB Floppy Drives
- 101-key Keyboard
- Built-in math coprocessor
- Weitek coprocessor socket
- Clock/Calendar w/battery backup
- Vertical case with power supply
- 3-Button High-Resolution Mouse

$1589

486DX2-66MHz w/256K Cache System $1795



ECI 386DX/40MHz 64K Cache 120MB Super VGA System

$979

- 64K cache on board
- 4MB RAM expandable to 32MB on board
- 120MB IDE HARD DRIVE
- 14" Super VGA color monitor (1024x768) .28dp
- 1MB 16bit SVGA (1024x768) card
- 2HD/FD controller
- 1.2MB and 1.44MB floppy drive
- 2 Serial, 1 Parallel, 1 Game Ports
- 101 Enhanced keyboard
- Weitek coprocessor socket
- Clock/calendar w/battery backup
- Includes shadow ram for fast bios access
- Mini Vertical case with 200W power supply

COLORADO MEMORY SYSTEMS INC.

DJ-10 (120MB) QIC-49	$138
DJ-20 (250MB) QIC-80	169
AB-11 External tape port	45
FC-10 Controller	95
KE-10 Ext Kit	99
TC-15 Controller w/data compression	195

Trakker™

Parallel Printer Port External Tape Backup System

120Mb External	$295
250Mb External	$385

NETWORK CARDS

3COM Etherlink III Coax/TP	$139/139
SMC Ethercard Elite 16 Coax/TP	139/139
INTEL Ether Express 16 Coax/TP	129/129

VESA Local Bus Hi-Performance 245MB Super VGA System

ECI

486DX-33	$1475
486DX-50	$1629
486DX2-66	$1699

- 8K Internal, 256K external cache
- 4MB RAM expandable to 128MB on board
- 245MB IDE HARD DRIVE
- 14" Super VGA color monitor (Non-Interlaced 1024x768) .28 dp
- 1MB 16bit VGA (1024x768) card (32-Bit VLB)
- 2HD/FD controller w/2S, 1P, 1G ports VLB
- 1.2MB and 1.44MB floppy drives
- 101 Enhanced keyboard
- Built-in math coprocessor
- Weitek coprocessor socket
- Clock/calendar w/battery backup
- Vertical case with power supply
- 3 Button High-Resolution Mouse

486-ISA

DX-33	$1389
DX-50	$1549
DX2-66	$1619

OPTIONS:

- 340MB 12ms Hard Disk	ADD $79
- 17" Viewsonic 7 Monitor 1280x1024 .28dp	ADD $605
- 17" Mitac Monitor NI 1280x1024 .26dp	ADD $345

FAX/MODEMS

USRobotics®

The Intelligent Choice in Data Communications

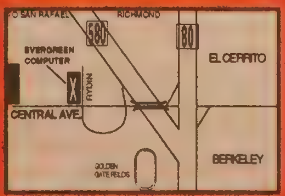
Sportster 14.4/14.4 MNP5 Int/Ext	$165/185
Sportster 14.4/14.4 Fax for Mac Ext	229
INTEL	
SatisFaxtion modem (w FAXability s/w)	
-400 Int 14.4/14.4 v.42, v.32bis MNP5	395
-400e Ext 96/14.4, 4K data buffer	395

CONTROLLERS

ADAPTEC	
1542C SCSI w. Kit (10MB/s)	$245
1742A SCSI EISA /w.Kit (2F & 7H)	415
ULTRASTOR	
ULT 15C IDE Cache	$189
ULT 24F SCSI EISA Cache	369
ULT34F SCSI-2 VLB 32K	275

INTERFACE CARDS

AT I/O card 2S/1P/G	$15
Mono graphic/printer	16
XT high density floppy cont.	35
Serial/printer/game/clock card	14/14/14/14
MFM 1:1 HD/FD cont.	29
IDE dual HD/FD cont	14
IDE w/IO 2S, 1P, 1G, Card	19
VGA Trident 1024x768 w/1MB	59
VGA T9000 1024x768 512K	49
STB 4-COM, 4 serial. 16 bit w/16554 support COM 1-8, IRQ 2,3,4,5,10,11,12,15	109



COMPUTER INTERNATIONAL, INC.
2700 Rydin Road #C, Richmond, CA 94804

EVERGREEN

(510) 526-8667 FAX (510) 526-1447

Best Price On CD-ROM & Multimedia

East Bay Multimedia Leader!

CD-ROM/SOUND CARD PACKS

Starter Pack #1
Panasonic 522 AT-Bus 390ms
Soundblaster Pro Deluxe Soundcard
Includes Free Encyclopedia CD & other Software
$335

Pro Pack #2
Panasonic 562 AT-Bus 340ms Double Speed!
Soundblaster Pro 16 ASP Soundcard
Includes Free Encylopedia CD & other Software
$479

Turbo Pack #3
TOSHIBA 3401B FAST SCSI 200ms
Mediavision 16-Bit Pro Soundcard
Includes Kodak Photo Access CD
$575

*CD SOFTWARE PACKS

*Software sold only with purchase of CD-ROM

Children's Pack
Arthur's Teachers Trouble
Barney Bear goes to School
Beauty & the Beast
MacMillan Dictionary
Mixed up Mother Goose
$119

Teenage Pack
Barron's College Handbook
Brain Drain Games
Grolier's Ency. MPC
Reference Library
US History
$129

Education Pack
Carmen San Diego Deluxe
Dictionary of the Living World
Jones in the Fast Lane
MacMillan Dictionary
Playing w/Languages English
$119

Fun Pack#1
Chessmaster 3000 MPC
King's Quest V
Space Quest IV
Stellar Seven
WingCommander/Ultima VI
$115

EDU-Family Pack
Microsoft Works
Mario is Missing/World Atlas
Mayo Family Clinic
National Geographic Mammals
Reference Library
$125

Variety Pack
Colossal Cookbook
GIFS Galore
Mirror Mirror Games
Complete Bookshop
Our Solar System
$109

Today's Business Pack
American Business Phonebook
Font Master Vol. 11
Kodak Photo Access CD
Lotus 1-2-3 for Windows MPC
Mircosoft Works for Windows
$199

Adult Pack
Asian Ladies
Animated Fantasies
Physical Therapy
Hot Pix Ecstasy
"For Mature Adults"
$135

"We carry over 500 CD-Titles! Please call for prices"

MULTIMEDIA UPGRADE KITS

Family Upgrade Kit
Panasonic 522 AT-BUS CD-ROM
Soundblaster Pro Deluxe
Stereo Speakers
Carmen San Diego Deluxe
Grolier's Encyclopedia MPC
Microsoft Bookshelf
San Deigo Zoo "The Animals"
World Atlas MPC
$439

ECI Upgrade Kit
Mitsumi MPC AT-BUS CD-ROM
Soundblaster Pro II
Stereo Speakers
Microsoft Bookshelf
Microsoft Works for Windows
Creative Sounds
Sherlock Holmes
Authorware Star, Tempra & Action!
$459

Publishers Upgrade Kit
Panasonic 562 AT-BUS CD-ROM
"340MS Double Speed Photo-ready!"
Soundblaster Pro II & Speakers
Publish It! 2.0
Microsoft Works MPC
Clipart Heaven
Font Master Vol.1
Kodak Photo Access CD
$509

Performance Upgrade Kit
Toshiba 3401 Fast SCSI CD-ROM
"200MS Double Speed Photo-ready"
Mediavision Pro 16-Bit
Amplified Stereo Speakers
Compton's Encyclopedia MPC
Kodak Photo Access CD
Carmen Sandiego Deluxe Version
Microsoft Bookshelf
$685

CD-ROM Drives

- **Panasonic (Matsushita) 522**
  (AT BUS w/Controller Card)
  380ms Access Time, 150KB Transfer Rate, Free Caddy
  Internal Drive $219
- **Panasonic 532 (Matsushita) SCSI**
  290ms Access Time, 150KB Transfer Rate, Photo-CD Compatible, Free Caddy
  Internal Drive $325
  External Kit For Panasonic 522/532 .... $60
- **Mitsumi MPC CD-ROM**
  (AT BUS w/Controller Card)
  350ms Access Time, 150KB Transfer Rate, Photo-CD Compatible, Caddyless
  Internal Drive $189
- **TEXEL DM-3024N SCSI**
  265ms Access Time, Multi-Spin, Photo-CD Compatible, Free Caddy
  Internal Drive $359
  External Drive $455
- **NEC CDR84-1 CD ROM**
  280ms Access Time, 300KB Transfer Rate,256K Buffer, Supports Multisession Photo CD, SCSI/SCSI II Selectable
  Internal Drive $449
  External Drive $529
- **TOSHIBA XM-3401 SCSI**
  Fastest CD-ROM, 200ms Access Time, 300KB Transfer, Multi-Spin, Free Caddy
  Internal Drive $449
  External Drive $559
- **Trantor Interface Kit** $79
- **Audio Cables** $8.95

MEDIA VISION

PRO AUDIO SPECTRUM 16
- True Stereo Sound
- Advance 20 Voice Stereo Synthesizer
- MIDI Interface
- 7-Software Titles bundle

$159

PRO AUDIO STUDIO 16
- Above with Voice Recognition
- Microphone & Software

$195

Sound BLASTER

Sound Blaster Deluxe	$95
Sound Blaster Pro Deluxe	135
Sound Blaster 16 ASP	215
Wave Blaster	245

LOGiTECH

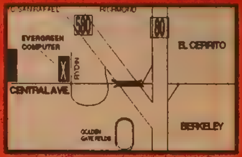
SOUND MAN 16
Advanced 20 Voice Stereo Synthesizer
16-Bit
$129

CD-ROM SOFTWARE TITLES

NO.	DESCRIPTION	PRICE
474	Arcade Battle	$24
475	Adventures of Willy Beamish	24
476	American Business Phonebook '92	24
477	Arthur's Teacher Trouble	29
478	Beauty & The Beast	24
464	Battle Chess	26
479	Bus. & Econ. World Atlas	32
480	Business Master	28
469	Carmen San Diego Deluxe	29
481	Chess Master 3000 MPC	24
482	Compton MPC Encyclopedia	95
483	Composer's Quest	32
484	Desert Storm	28
485	Dictionary/Living World	32
486	Electronic Library of Art VI	32
487	Family Choice	28
488	Family Doctor	28
465	Family Education Collection	29
489	Game Master	24
490	Game Pak 1 (5 Games)	28
466	Game Pak 2 (10 Games)	34
491	Great Cities Vol. 1	28
492	Great Cities Vol. 2	28
493	Guiness Disk MPC 1993	28
494	Guiness Disk /Recor. MPC	28
495	Artis Jeta & Props 2 Disks	28
496	Jones in the Fast Lane	24
467	KingQuest V	26
497	Library of the Future 1st	48
470	Loom	24
498	Media Clips 4 Pack	59
499	MacMillan Dictionary	29
468	Microsoft Bookshelf	45
501	Mixed Up Mother Goose	24
502	Musical Instruments	69
461	Monkey Island - English	26
462	Nat'l Geographic Mammals	28
503	Ocean Digital Imagery Vol. 1	35
504	PC Sig II	29
505	Peter & The Wolf	24
463	Playing w/Languages - English	29
506	Playing w/Languages - French	29
507	Playing w/Languages - German	29
508	Playing w/Languages - Spanish	29
509	Publish It! 2.0	24
510	STW Grolier's Ency. MPC	49
511	San Diego Zoo /Animals	28
512	Sherlock /Consulting Detective	32
513	So Much Shareware II	28
471	Space Quest IV	24
472	Stellar 7	24
514	Seventh Guest	69
473	Secret Weapons of Luftwaffe	28
515	Time Almanac 1991	32
516	Time Table of History	28
517	U.S. History	24

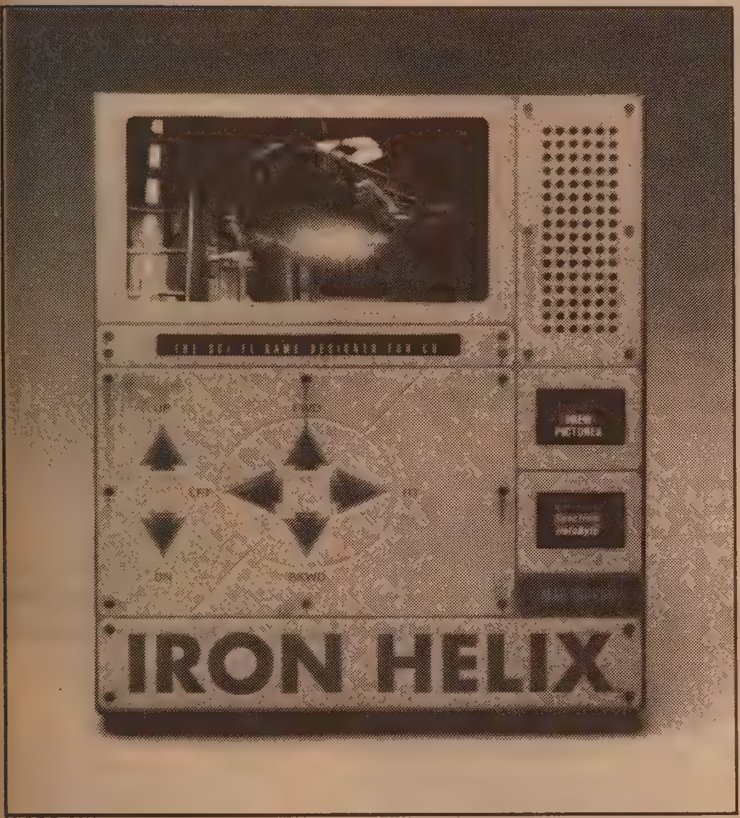
EVERGREEN

COMPUTER INTERNATIONAL, INC.
2700 Rydin Road #C, Richmond, CA 94804
(510) 526-8667 FAX (510) 526-1447



Continued from page 196

instrument assignment controls used during recording and arranging. In addition, the Score View now has click-and-drag support, allowing users to quickly edit music by dragging notes or regions of notes to any location in the Score View. ($249.95) Midisoft Corp., PO Box 1000, Bellevue, WA 98009. (206)881-7176.



REVIEWS

GAME REVIEWS

By Mike Markowitz

IRON HELIX

Designed By: Drew Huffman
Lead Programmer: J.A. Nelson
Published By: Spectrum HoloByte
For: Macintosh (requires CD-ROM drive, 8-bit color graphics, at least 4MB RAM, System 7 or System 6.07 with 32-bit QuickDraw)
List Price: $99.95

A movie has the same ending every time you see it. It also requires you to drive to the theater, find a place to park, stand in line with a bunch of annoying strangers, and endure the smell of bad popcorn. A game can be different every time you play it. You can enjoy it in the comfort and privacy of your own cave. But game players have grown up on a steady diet of Hollywood production values and video special effects.

Not too long ago, computer game designers were content to emulate the experience of playing a board game, or to reproduce the dynamics of a pinball machine (or its electronic successor, the arcade game machine). Today, computer game designers must increasingly attempt to transcend the limits of movie-making. Game development teams don't have Hollywood budgets, but on the other hand, they don't have to deal with the egos of movie stars, or open simultaneously in two thousand neighborhood theaters to have a hit.

Iron Helix is an interactive science fiction adventure game that uses the audiovisual power of the CD-ROM drive to deliver a surprisingly cinematic-like experience. The plot might be described as *Alien* without the gore. A terrible virus has killed off the crew of a starship, which is now running on autopilot, programmed to destroy an innocent planet. Remotely controling an unarmed robotic probe, you must board the ship, evade a relentless defender robot, locate the DNA codes that will unlock doors, and enable the controls so you can save the galaxy.

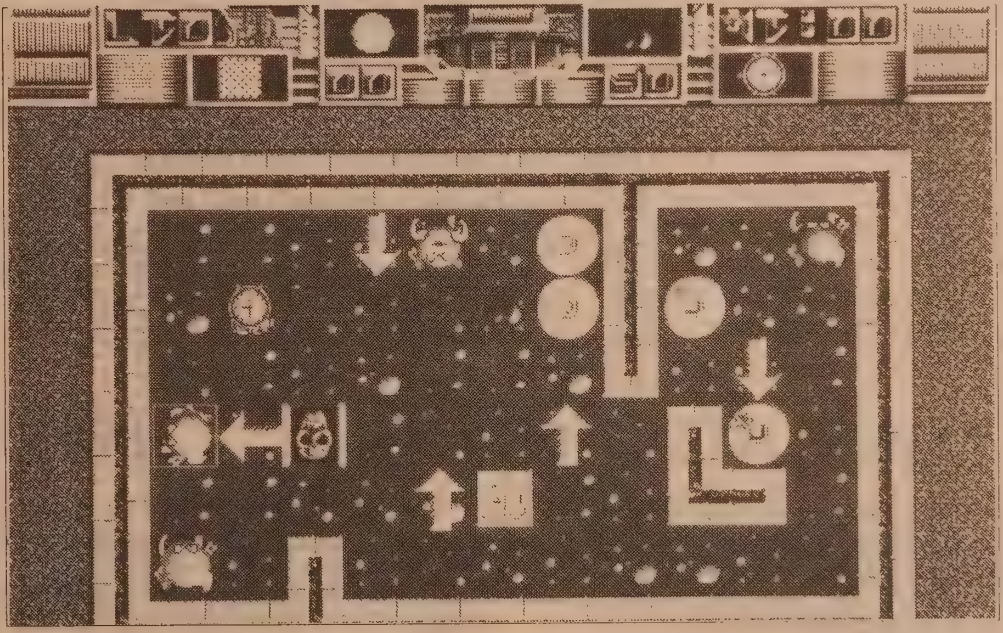
The user interface is very simple and intuitive, but the game has multiple levels of difficulty and many challenging puzzles. The programmers have gone to great lengths to ensure smooth animation, even on minimally configured systems. There are none of the irritating delays or audio break-ups that spoil so many other CD-ROM-based games. The program confines the QuickTime animations to relatively small windows on the screen, but the overall design and implementation are so good that this doesn't detract from the game experience.

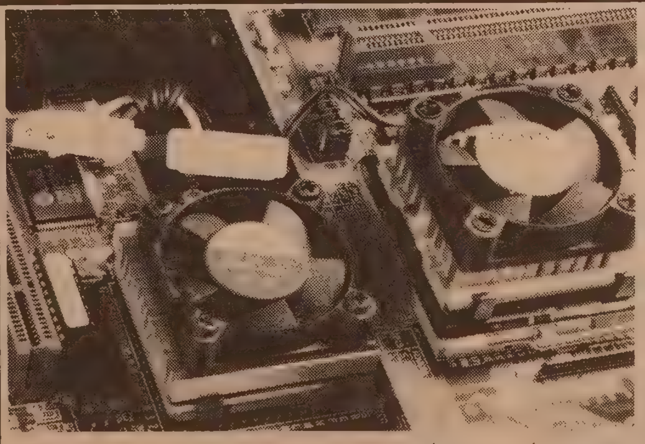
The 32-page user guide is formatted as excerpts from the technical manuals for the starship and the robotic probe. It includes enough hints and tips to get you started with minimal frustration.

We reviewed the game on a Mac LC III with only 4MB of RAM and an older Apple CD-ROM drive. The NEC CDR-25 CD-ROM drive will not work with Iron Helix. The way this particular CD-ROM drive buffers and caches is incompatible with the software used to create Iron Helix. NEC is aware of this problem which unfortunately cannot be corrected.

Continued on page 307

◄ IRON HELIX
THE TINIES ▼





QTY 1-2	3-5	6-10	11-19	20-49	50-100
$15.00	$13.00	$9.00	$8.25	$7.25	$7.00

486DX CPU
Cooling Fan

- Special Design Allows 2 Different Ways Of Installation
  Installation is as easy as "snapping it on"
  Can be used with ZIF Socket by reversing clip!
- UL Approved Fan
- Quiet Operation Fan

SAVE UP TO 40%!

IM-LINK CORP.
2827 Whipple Road • Union City, CA 94587
Tel:(510) 489-2681 Fax:(510) 489-2666

ACR **SYSTEMS**

WE CARRY ALL YOUR

486DX2-66/DX-33
ISA

- INTEL 486 CPU
- AMI BIOS
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- IDE 2H/2F
- 2S/1P/1G PORTS
- SVGA CARD W/1MB
- 14" SVGA MONITOR .28
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1340/1166

486DX2-50/DX-50
ISA

- INTEL 486 CPU
- AMI BIOS
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- IDE 2H/2F
- 2S/1P/1G PORTS
- SVGA CARD W/1MB
- 14" SVGA MONITOR .28
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1234/1275

486DX-40
ISA

- AMD 486 CPU
- AMI BIOS
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- IDE 2H/2F
- 2S/1P/1G PORTS
- SVGA CARD W/1MB
- 14" SVGA MONITOR .28
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1295

486-33 DLC
ISA

- CYRIX 486 CPU
- AMI BIOS
- 4 MB RAM
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- IDE 2H/2F
- 2S/1P/1G PORTS
- SVGA CARD W/1MB
- 14" SVGA MONITOR .28
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1098

386-40
ISA

- AMD 386 CPU
- AMI BIOS
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 120 IDE HARD DRIVE
- IDE 2H/2F
- 2S/1P/1G PORTS
- SVGA CARD W/1MB
- 14" SVGA MONITOR .28
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$928

486DX2-66/DX-33
LOCAL BUS

- INTEL 486 CPU
- 256K CACHE
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- 32 BIT VLB w/1 MB VIDEO CARD
- 2H/2F CONTROLLER
- 2S/1P/1G PORTS
- 14" SVGA MONITOR .28 NI
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1563/1358

486DX2-50/DX-50
LOCAL BUS

- INTEL 486 CPU
- 256K CACHE
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- 32 BIT VLB w/1 MB VIDEO CARD
- 2H/2F CONTROLLER
- 2S/1P/1G PORTS
- 14" SVGA MONITOR .28 NI
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1457/1498

486DX-40
LOCAL BUS

- AMD 486 CPU
- 256K CACHE
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- 32 BIT VLB w/1 MB VIDEO CARD
- 2H/2F CONTROLLER
- 2S/1P/1G PORTS
- 14" SVGA MONITOR .28 NI
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1430

486-33 DLC
LOCAL BUS

- CYRIX 486 CPU
- 256K CACHE
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- 32 BIT VLB w/1 MB VIDEO CARD
- 2H/2F CONTROLLER
- 2S/1P/1G PORTS
- 14" SVGA MONITOR .28 NI
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE

$1195

486-33DX
MULTIMEDIA

- INTEL 486 CPU
- 256K CACHE
- 4 MB RAM UP TO 32 MB
- 1.2 TEAC & 1.44 TEAC FD
- 212 W.D. IDE 12ms HD
- 32 BIT VLB w/1 MB VIDEO CARD
- 2H/2F CONTROLLER
- 2S/1P/1G PORTS
- 14" SVGA MONITOR .28 NI
- 101 ENHANCED KEYBOARD
- MINI-TOWER/220 W PS
- HI-RES MOUSE
- TOSHIBA XM-3401 CD ROM
- PRO-AUDIO 16 SOUND CARD

$1926

486DX2-66/DX-33
MICRONICS MOTHERBOARD

- 256K CACHE
- 8 MB-70 EXP TO 64 MB
- PHOENIX BIOS
- 2 VESA, 6 ISA
- 32 BIT ORCHID VLB CONTROLLER
- 1.2 & 1.44 MB TEAC FD
- MED TOWER 230 PS
- MAXI OR MITSUMI KEYBOARD
- ATI-ULTRA PRO 2 MB VRAM VIDEO CARD MACH 32

$1845/1655

486DX2-66/DX-33
AMI MOTHERBOARD

- 256K CACHE
- 8 MB-70 EXP TO 64 MB
- AMI BIOS
- 2 VESA, 6 ISA
- 32 BIT ORCHID VLB CONTROLLER
- 1.2 & 1.44 MB TEAC FD
- MED TOWER 230 PS
- MAXI OR MITSUMI KEYBOARD
- LEVEL II 2 MB VRAM S3 928 GUI ACCELERATOR

$1910/1720

486DX2-66/DX-33
DIAMOND MOTHERBOARD

- 256K CACHE
- 8 MB-70 EXP TO 64 MB
- DIAMOND BIOS
- 2 VESA, 6 ISA
- 32 BIT ORCHID VLB CONTROLLER
- 1.2 & 1.44 MB TEAC FD
- MED TOWER 230 PS
- MAXI OR MITSUMI KEYBOARD
- DIAMOND VIPER 2 MB VRAM WEITEK P9000

$1710/1510

486DX2-66/DX-33
ORCHID MOTHERBOARD

- 256K CACHE
- 8 MB EXP TO 64 MB
- AMI BIOS
- 2 VESA, 6 ISA
- 32 BIT ORCHID VLB CONTROLLER
- 1.2 & 1.44 MB TEAC FD
- MED TOWER 230 PS
- MAXI OR MITSUMI KEYBOARD
- ORCHID CELSIUS 9000 3 MB VRAM WEITEK P9000

$1535/1345

486DX2-66/DX-33
MICROCENTER MOTHERBOARD

- 256K CACHE
- 8 MB EXP TO 64 MB
- PHOENIX BIOS
- 2 VESA, 6 ISA
- 32 BIT ORCHID VLB CONTROLLER
- 1.2 & 1.44 MB TEAC FD
- MED TOWER 230 PS
- MAXI OR MITSUMI KEYBOARD
- DIAMOND VIPER 2 MB VRAM WEITEK P9000

$1540/1350

COMPUTER NEEDS AT THE PRICES YOU WANT!!!

MOTHERBOARDS

AMI

Super Voyager 486-33 256K VLB	$865
Super Voyager 486-50 256K VLB	980
Super Voyager 486 DX2-66 VLB	1210
Enterprise II 486-50 EISA 128K	1130
Enterprise III 486-33 256K VLB EISA	985
Enterprise III 486-50 256K VLB EISA	1185
Enterprise III 486DX2-66 256K VLB EISA	1320

MICRONICS

486-50 256K Cache EISA E2	$1185
486-33 Local Bus 256K Cache	678
486DX2-50 Local Bus 256K Cache	785
486DX2-66 Local Bus 256K Cache	888
486-33 256K EISA VLB	1025
486DX2-50 256K EISA VLB	1215
486DX2-66 256K EISA VLB	1385

ORCHID (w/o CPU)

Superboard 486 (VLB VGA & Controller) DX33/DX50/DX2-66 256K	$239/259/243

DRIVES

Conner CP30204 212 MB 12ms IDE	$218
Conner CP30254 250 MB 14ms IDE	235
Conner CP30544 540 MB 12ms IDE	599
Fujitsu M2624T 520 MB 12ms IDE	709
Maxtor 7245AT 245 MB 15ms IDE	240
Maxtor 7345A 340 MB 13ms IDE	305
Quantum LPS240 240 MB 15ms IDE	255
Quantum LPS525A 525 MB 13ms IDE	595
Western Digital WD2200 212 MB 14ms IDE	205
Western Digital WD2250 250 MB 14ms IDE	235
Western Digital WD2340 340 MB 13ms IDE	299
Fujitsu M2623SA 425 MB 11ms SCSI	635
Fujitsu M2624F 520 MB 11ms SCSI	726
Fujitsu M2694SA 1.2 GB 10ms SCSI	1065
Fujitsu M2652SA 2.0 GB 11ms SCSI	1867
Fujitsu M2654SA 2.4 GB 12ms SCSI	2410
Quantum LPS525S 525 MB 13ms SCSI	737
Toshiba 877 MB 12ms 512K Cache SCSI-2	865
Toshiba 1.2 GB 12ms 512K Cache SCSI-2	1070
LXT 7213S 200 MB 15ms SCSI 3.5"	265
540SL 540 MB 8.5ms SCSI-2 1" HT	852
MXT 1240S 1.2 GB 8.5ms SCSI-2 3.5"	1165
PO-12 1.2 GB 13ms SCSI	975
Optical Drives: Rewritable 1 GB 35ms SCSI Ext Tahiti II/1 GB Cartridge Glass	2635/199

CONTROLLER CARDS

ULTRASTOR

ULT 15C IDE 8MB 256K Cache	$193
ULT 14F ISA SCSI 32K Cache	213
ULT 24F SCSI EISA 64K Cache	372
ULT 34F VL BUS SCSI-2 32K Cache	283

ADAPTEC

1542C SCSI w. Kit (10MB)	$245
1542C Plus w. ASW 500	313
1640 SCSI w. Kit for MCA	332
1742A SCSI EISA w. Kit (2F/2H)	421
ASW-1410 ASPI MS-DOS Manager 3.0	69
ASW-EZ SCSI for DOS & WIN	67
ASW-310 Sy-Tos Plus (Tape Back-Up S/W)	95

AMI

FastDisk Cache SCSI EISA (up to 16MB)	$485
FastLan Ethernet-SCSI VLB	462

DTC

2290 IDE EISA	$135
3280AS SCSI	103
3290AS EISA SCSI Host Adapter	475
6282 1:1 ESDI	122

MYLEX

DE 376 EISA SCSI w/4 MB Cache	$722

VGA CARDS

ATI

Graphics Ultra Pro 2 MB (VRAM) ISA	$345
Graphics Ultra Pro 2 MB w/Mouse	399
Graphics Ultra Pro 2 MB VRAM VLB	352
Graphics Ultra Pro 2 MB EISA	462

DIAMOND

Stealth 1 MB (VRAM) w/Sierra Hi-Color	$197
Stealth 24 1 MB (DRAM) 16 Million Color	176
Stealth 24 1 MB (DRAM) VLB	186
Stealth Pro (VRAM) 1 MB/VLB	255/265
Stealth Pro (VRAM) 2 MB/VLB	355/365
Viper VLB P9000 (VRAM) 2 MB	355

ORCHID

Fahrenheit VA/VLB w. Voice Annotation 24 Bit	$199
Fahrenheit VLB VESA 1 MB 24 Bit	165
Fahrenheit 1280 (DRAM) 1 MB	159
Celcius VLB 1 MB	235
Fahrenheit P9000 VLB 3 MB	355
ProDesigner IIs 1 MB, w. Hi-Color	145

MYLEX

GLE911 1 MB 1280x1024 EISA	$398
GXE020B 4 MB (DRAM)1280x1024 2 MB VRAM TMS34020 Tiga/EISA	1035

NUMBER NINE

#9 GXe 1280x1024 90Hz S3-928 Chip	
-Level 10VRAM ISA 1 MB	$285
-Level 11 VRAM ISA 2 MB	385
-Level 11 VRAM VLB 2 MB	395
-Level 12 VRAM ISA 3 MB	492
GXI Lite L20 TIA, WIN 1280-16 Color	565
GXI Lite L21 CAD WIN 1280-16 Color	725
GXI Level 24 CAD WIN 1280x1024 256	1279
GXI TC-Level 29 24 Bit 1280x1024 256 Color at 72 Hz 4 MB (VRAM) 1 MB DRAM	1495
ET4000 Tseng Lab 1 MB	95
ET4000 Tseng Lab VLB 1 MB	129
Oak 067 Super VGA 512K	52
Oak 077 Super VGA 1 MB	65
STB Super VGA 1 MB	99

AMI

FastView EISA VGA Graphics 1 MB	$269
FastView P9000 VLB 2 MB	395

OTHERS

Artist XJS 12-16	$2190
Artist XJS Lite	1485
Artist Winsprint 100+	442
Artist Winsprint 150+	543
Hercules GS Gold 16	393
Hercules Graphite	342
Metheus 1104+16/256	992/1085
Metheus Premire 1MB/2MB	372/565
Matrox 1024	$CALL
Matrox Impression AT	$CALL
TrueVision 1024/32	1585
TrueVision 1024P/24	1285
Rasterex Tracer 1280	2685
Spea 1280	1685

MONITORS

MAG (AutoSwitch Power Supply)

PM 1558 14" 1024x768 .28NI	$365
MX14S 14" 1280x1024 .26 Sony Trinitron	525
MS15F 15" Flat 1280x1024 .28 NI Mac II	575
MS17F 17" Flat 1280x1024 .26 NI Mac II	1055
Mac Adapter	25

MITSUBISHI

HL6955SETK 20" 1280x1024 .31 NI	$1745
Diamond Pro 17" 1280x1024 .26NI Trinitron MAC II 100-240v	1075
BNC Cable	39

NANAO (100-240v)

F340W 15" Full Flat Screen 1024x768 .28	$719
T560I 17" 1280x1024 .25 NI Mac II	1695
F550I 17" 1280x1024 .28 NI Mac	1075
F55IW 17" 1280x1024 .28 NI Mac	1125
T660I 20" 1280x1024 .31 NI Trin Mac II	2595
F750I 21" 1280x1024 .31 NI Mac II	2095
Mac II Cable Adapter	69

NEC (120v)

4FGe 15" Flat 1024x768 .28 NI Mac	$709
5FGe 17" 1024x768 .28 NI (no Accu color)	1099
6FG 21" Flat 1280x1024 .28 Mac	2395
NEC Monitor Lens (Anti-Reflection & Static) for 4FG/5FG/6FG	74/115/185
FG/MacII Cable Adapter Kit	19.50

MONITORS

VIEWSONIC

4E 14" 1024x768 .28 Int 110/220V	$305
5+ 14" 1024x768 .25 NI Mac II	495
5e 14" 1024x768 .28 NI Mac II	395
6e 14" 1024x768 .28 NI	335
6FS 15" 1024x768 .28 NI 90/264v	535
15 15" 1280x1024 .28 NI Mac II	579
7 17" 1280x1024 .28 NI Mac II	975
17 17" 1280x1024 .28 NI Mac II	1125
8 20" 1280x1024 .31 NI Mac II	1595
20 20" 1600x1280 .28 NI MacII	1895

SONY

1430S 14" 1024x768 NI 120v	$599
1604S 17" 1024x768 .25 NI 100-240v	965
1730 17" 1024x768 .25NI	995
3028 20" 1280x1024 .30 NI	2295

PRINTERS

PANASONIC

1123/1124i/1624	$195/259/349
-Auto Sheet Feeder for 1124 KX-P36	120
2023 24 pin quiet printer	199
2123 24 pin 43.5dBA color capability	239
2124 24 pin 43.5dBA color capability	319
2624 24 pin quiet printer 46.5dBA	375
2180 9 pin 45 dBA color capability	159

CANON

BJ-200 (after rebate)	$349
BJ-300 desktop	349

HP (HEWLETT PACKARD)

LaserJet w/Toner

Desk Jet 500/500C/550C	$369/489/699
LaserJet IIIP	839
LaserJet 4/4M/4L/4SI	1359/1865/685/3295

TAPE BACK-UP

(<500 MB TAPE BACK-UP)

Colorado 120/150 MB	$145/197
Colorado KE-10 Ext kit w/card	105
Colorado Ext Port card	37
FC-10 High Perf Card	85
Colorado Trakker 120/250 MB	344/404
Summit Express 305 MB 10MB/sec	264
Archive Viper 250 MB hh SCSI I/E	349/CALL
Archive Viper 250 MB w/QIC 15MB/min 1"H	179
w/Central Point SW add	20
Viper 525 MB hh SCSI Int/Ext 6MB/sec	549/950

(>500 MB for PC/SERVER)

Colorado 700 MB	$689
FC-15 high perf card	181
Colorado 2.4/4.0 GB Qic 5.25	969/1499
YE Data1.2GB SCSI DAT	529
Python 4(8)GB 3.5" DAT SCSI .5m I/E	1195/1587
HP 2GB DAT 4mm Int/Ext	1095/1245
HP 5GB DAT 4mm Int/Ext	1320/1475
Maynard 2GB 4mm DAT Int/Ext	1890/2060
Mount FS1200 4mm DAT HH Int/Ext	1840/2133
Exabyte 2GB 8mm DAT HH Int/Ext	1485/1815
Exabyte 8250 5GB HH 2hrs Int/Ext	1795/1875
Exabyte 8505 10GB HH 2yrs Int/Ext	2475/2770

(above drives require special cont & soft drivers)

TAPE BACK-UP DRIVERS

NOVASTAR

Novaback for DOS	$89
Novaback for OS/2	89
Novanet Multiuser NLM	439
Sytos for DOS/Novell, Gen	185
ARCserve Solo	185

MULTIMEDIA

NEC CD-ROM 84/74 (280ms)	$420/570
Mitsumi CD-ROM (350ms) w/Card	185
Panasonic CR-522 (380ms)	205
Toshiba XM-3401 Int/Ext	420/520
Creative Labs Sound Blaster Pro Deluxe	120
Creative Labs Sound Blaster 16 ASP	198

MODEMS

US ROBOTICS

Courier 144 v.32bis v.42 MNP5 Int	$372
Courier 144 v.32bis v.42 MNP5 Ext	375
Courier 144 w/Fax Ext	395
Courier HST-DS 144 v.32bis v.42 MNP EXT	725
Sportster 96 Modem MNP5 Int/Ext	149/159
Sportster 96/96 Fax Int/Ext	159/159
Sportster 14.4/14.4 Fax MNP5 Int/Ext	175/195
Sportster 14.4/14.4 Fax for Mac Ext	225
Shared Access Modem Sharing Kit	672

PLOTTERS/DIGITIZERS

HOUSTON INSTRUMENTS

Im Maker 1117 A/B Pen HPGL	$632
DMP-161 A-D 8 Pen HP-GL/2	2625
DMP-162 A-E 8 Pen HP-GL/2	3495
DMP-162R A-E 8 Pen Roll Med	3975
V50 (InkJet A-C Size) New	1405

CALL FOR OTHER PRODUCTS NOT LISTED

DIGITIZERS

SUMMAGRAPHICS

III 12x12 w/16btn 4bt & Pen	$305
III 12x18 w/16btn or 4bt & Pen	545

KURTA

XLP 12x12 w/4btn & Pen	$245
XLP 12x18 w/16btn or 4btn Pen	520
IS/ONE 12x12 4btn/12btn/Pen	329
IS/ONE 12x17 4btn/12btn/Pen	530
(IS/ONE also available w/Cordless 4btn or pen)	
XLC 24x36	1260
XLC 18x24	1070

CALCOMP

12x12	$279
12x18	629
18x24	1275
6x9 P Series	439
12x12 P Series	485

SCANNERS

MICROTEK

Scanmaker II 1200dpi Max	$850
Scanmaker IIXE 1200dpi Max	1130
Scanmaker 1850 1850dpi Max	1360
MS-II OCR Scanner	669
ADF-600 Auto Sheet Feeder	480
Scanmaker 45T for transparencies	NEW

NETWORKING

Netware Lite 1.1 + DR DOS 6	$65
Netware Lite w. Win Utilities	75
Netware 2.2	
-5/10/50/100 User	489/1089/1995/2945
Netware 3.11	
-5/10/20 User	599/1345/1885
-50/100/250 User	2650/3859/6885
Netware 4.0	
-5/10/25 User	935/2095/2895
-50/100/250 User	3915/5495/9675

SMC (Western Digital)

Ethernet Plus Elite 8 Bit Coax	$115
Ethernet Plus Elite 16 Coax/16 TP	139/145
Ethernet Plus Elite 6 pack 16 Coax/16 Tp	725/750
3016 16 Bit Coax/16 Bit TP	145/149
Ethernet Elite 16 combo/6 pk	175/840
Ethernet Plus/A for MCA/TP	215/219
Ethernet Elite 32 bit Coax/TP	650/660
Netware Boot ROM for Ethernet	34
8 Port Concentrator (8TP+1AUI)	339
12 Port Concentrator (12TP+2AUI+1BNC)	595
Token Ring 16/4 ISA/MCA	379
WD-8003 EP Ethernet Plus Elite 8 Bit Coax	49
WD Lan ETP8 Bit (cabl included)	39
WD Lan-10T/A for MCA (cable included)	65

POWER SUPPLIES

AMERICAN POWER CONVERSION (UPS)

APC-400 Smart UPS (286,386 WS)	$309
APC-600 Smart UPS (386 486 FS)	399
APC-900 Smart UPS (486 486 FS & WS)	639
APC-1250 Smart UPS (multiple FS & WS)	799
APC-450 Back UPS 286 PS/2 386	235
APC-600 Back UPS 286 386 FS	285
APC-800 Back UPS 800RT 2-4ms 15min	565
APC-750 On-Line UPS (286,286,486 FS)	1365
APC-1500 On-Line UPS (multiple servers)	2499
APC PowerChute Plus for Novell	79
APC UPS Monitoring Board for Netware	69
Power Doctor (DOS) I/F kit for Smart-UPS	79

PC POWER COOLING

Standard 220 for desktop/full tower	$85
Silencer	270
-for slim, baby or mid tower	143
-for AT desktop/full tower	163
Turbo-Cool	300
-for slim	145
-for desktop/full tower	120
Turbo-Cool 450 for desktop/full tower	312
InnerSource 2210 UPS for full tower, Int 95-132v 220W DC, 100W AC=550VA Ext UPS	299
Novell Netware Interface	
-for InnerSource 2210 UPS	55

TRIPP LITE

BC 500 LAN (UPS 350W)	$215
BC 900 LAN (UPS 650W)	363
Omni 450 LAN (UPS 325W + Line Regulation)	295
Omni 600 LAN (UPS 425W + Line Regulation)	385

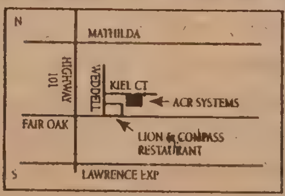
ACR SYSTEMS

1038 Kiel Ct.
Sunnyvale, CA 94089

(408) 734-9795
Fax: (408) 734-9798

Mon-Fri 9am-6pm Saturday 10am-5pm

Prices subject to change without notice



Terms & Conditions:

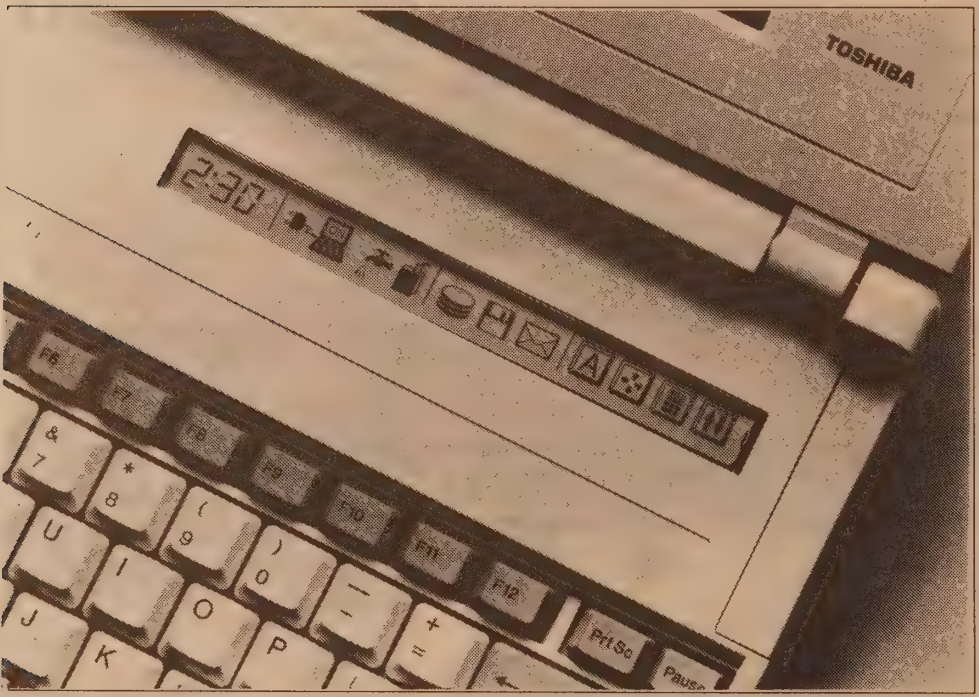
- Call For Latest Prices & Availability
- Prices & Availability subject to change w/o notice
- Shipping, COD & Insurance are extra and not refundable
- Prices reflect cash discount
- All returns must have prior authorization•All returns must be in original packaging complete with manual, software...etc.
- 15% restocking charge
- Not responsible for typo on this ad

continued from page 38

LAPTOPS

COMPUTER OF THE MONTH: Toshiba T4500notebook

It is always a pleasure to review a Toshiba computer because there are a number of things that need little explanation on these computers. The keyboards are consistently excellent, but you can attach a keyboard of your choice; the displays are crisp, but you can attach an external color monitor; and the technology is always tops. This computer falls right in line with the expectations. When I review a Toshiba, I can concentrate on the new technology rather than the standard ingredients.



Toshiba introduced their 4500 series in a number of configurations. Both monochrome and color models are available. I worked with the monochrome unit. The color model, "$4399" is slightly fatter than the monochrome, which is only 1.8" thick. Opening the top reveals a 9.5" VGA screen. If you use an external monitor, the computer will support Super VGA. The built-in display is enhanced by Toshiba's proprietary Ultrafont software, which slightly enlarges the letters of the display. It is this kind of attention to detail that sets Toshiba products apart.

The 4500 series is powered by a 486SX central processor running at 20MHz. The unit uses the new 3.3 volt technology which offers longer battery life as a result of lower power consumption. You can count on three hours of battery life if you utilize all of the power conservation features the machine offers. One of the things I really liked about this unit is that when you plug in the included AC power supply, the power conservation features are suspended so you can get the maximum performance from the unit. The rechargeable NiCd battery pack, included in the 6.5lb. unit, can be charged in as little as two hours.

Four megabytes of RAM come standard and are expandable all the way up to 20MB. Expansion is easily done by plugging in the 4MB, ($399), 8MB ($679), or 16MB ($2549) credit card-size memory cards. Both an 80MB and 120MB hard disk are available, with a price differential of $200.

The overall design of the machine is superb. Above the keyboard is an LED screen which displays a number of QuickRead status icons that tell you when drives are in use, the status of the number and caps lock keys, and details of how you have set power consumption options. A numerical value is also displayed that tells you at a glance how much time you have left on the battery. The battery meter displays either a percentage or actual time left. I find this feature useful. Other systems I have seen are not as convenient or straightforward.

A PCMCIA slot will take any of the standard cards—I tried the Megahertz 14,400 baud fax/modem—and still leave your serial port available for other peripherals. Toshiba's PCMCIA slot is a bit more versatile than most as it will take not only the credit card thickness accessories, but also cards up to 16mm thick. This means that portable hard drives can be plugged into the slot.

This is a unit clearly designed for use with Windows. First, Windows 3.1 is included and installed. Secondly, a BallPoint mouse—really a trackball—comes with the computer. This device plugs into the side of the machine and becomes a part of it. I find that trackballs generally are not as convenient as mice, but on the other hand they eliminate the need for a desktop. One nice thing about this trackball is that it has a larger ball, which seems to make using it a lot easier.

Toshiba has also included MS-DOS 5.0 and standard utilities. The documentation for the computer comes on disk as well as in print form. The disk version is convenient and often easier to use than the print because hypertext takes you to related topics with the push of a button.

You can't go wrong with a Toshiba computer. My only complaint is that the technical support they brag about is a joke. The 800 number takes you through a series of recordings that end by suggesting that you call your dealer or a regional service center. You are given a number to find the service center nearest to you. The line was busy. Another option is to make a toll call to a technical support number. But I was kept on hold so long that I finally gave up. Toshiba needs to improve their telephone support.

The T4500 was a pleasure to use and is worthy of your consideration. ■

RESOURCES:

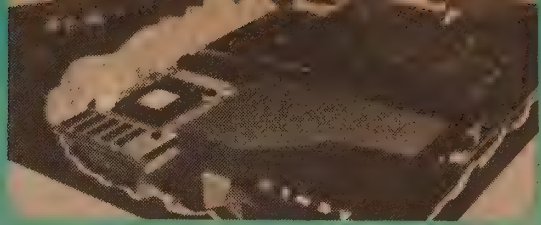
Toshiba T4500, $2799
Toshiba America
Information Systems
PO Box 19724
Irvine, CA 92713-9724
1-800-334-3445

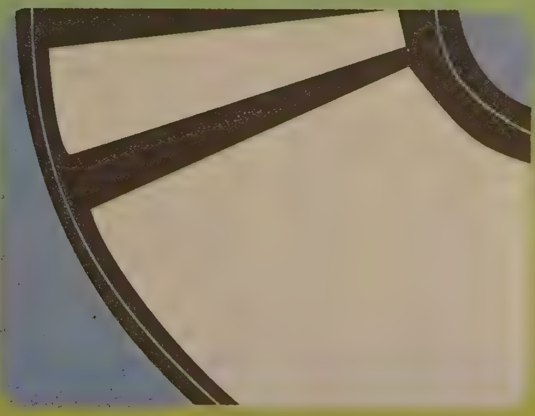
Multi Media & beyond

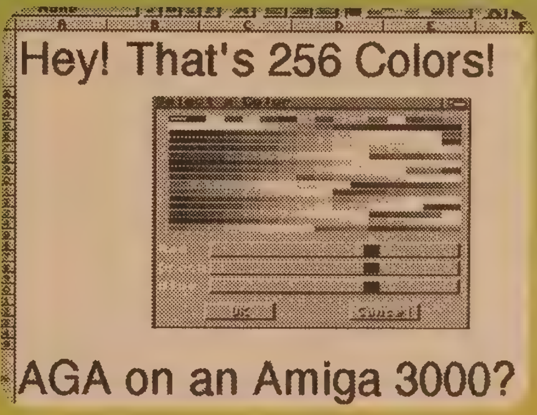
SGI's Indy Workstation;

Multimedia At WOMAD;

24-bit Amiga







Hey! That's 256 Colors!

AGA on an Amiga 3000?

Multi Media & beyond

Enter Indy

Silicon Graphics Unveils Powerful, Affordable Workstation

BY TONY REVEAUX

It's become a cliché that the continuing evolution of computer technology will eventually make workstation-class power affordable. Sun's SPARCstation and Apple's Quadra series have already delivered more power to the desktop than a roomful of wafers could do a couple of decades ago; now, Silicon Graphics' new Indy marks one more big step in the price/performance odyssey.

For $4,995, the entry-level system delivers a 15" color monitor, keyboard, mouse, digital color camera and virtual 24-bit graphics, all in a diskless configuration powered by a 100MHz MIPS R4000PC processor. (For true functionality, you'll need to either add a large hard disk or connect to a network.) The Indy comes with Indigo Magic, the user-friendly operating environment, plus a full suite of digital media software tools and—a games CD-ROM. Various memory, storage, input and computational upgrade paths are available.

In general, the thirteen hundred applications currently available on the SGI platform reflect the markets in which the company has historically been strongest—CAD/CAM, CASE, architecture, chemistry, database management, film and video production, photo retouching, technical publishing, and training—rather than more generic personal productivity.

However, for technical or creative professionals attracted by Indy's power but reluctant to abandon their existing Mac or PC applications, all is not lost. The Indy accepts PC and Mac 3.5" floppies and third-party emulation packages (SoftPC from Insignia Solutions, Mac emulation from Quorum). While even the best of emulators causes a significant performance loss over native mode, SGI maintains that the R4000's speed is sufficient to more than offset the emulator's inefficiencies. (While the demos

continued on page 288

Copyright © 1993 by Tony Reveaux. All rights reserved. Tony Reveaux can be reached via Usenet (luna@well.sf.ca.us) or MCIMail 290-3008.

Multimedia

Large Selection

Trakker
Portable 250mb Tape Backup
connect to parallel port
By Colorado
$349

486DX2-66 Vesa Local Bus
- ISA Motherboard and CPU
- 256K Cache
- 2 Vesa Local bus slot
$659

Microsoft ENCARTA
CD_ROM Multimedia Encyclopedia
$259

PROPHONE
CDROM PHONE BOOK
7 Disk Set, New Mid 1993 Ed.
70 million residential
10 million business
$119

ALR Pentium
VLB, Desktop, 8mb ram
No video or Hard disk
$2495

WatchIT! TV
by New Media Graphics
TV in a window. Includes
TV tuner plus image capture
New $249

SupraFAXModem
14,400 bps Send/Receive
Fax/Modem V.32bis V.42bis
External No Software
$229

SupraFAXModem
14,400 bps Send/Receive
Fax/Modem V.32bis V.42bis
Internal with Software
$179

ALTEC LANSING
ACS300 Stereo Speakers
with seperate SubWoofer
$279

Smart Label Printer Pro
By Seiko
$229

7th Guest CDROM
Interactive Movie
$49.95

FUSION DoubleCD 16
COMPUTER CD SOUND SYSTEM
By Media Vision
CD Drive, 16 bly Sound, Speakers
Comptons Interactive Enclopedia
7th Guest and more.
$610

PRO 16 MULTIMEDIA SYSTEM ②
CD-ROM With 16 bit Sound BY Media Vision
$869

Snap Plus Desktop TV
By Cardinal
VGA plus NTSC in and NTSC out
$769

PRO AUDIO STUDIO 16
VOICE RECOGNITION
Plus CDROM Interface, 16 Bit Text to Speech
$219

ScanMaker II
By Microtek
1200 DPI, 16 Million Color
Full page scanner
$869

Thrustmaster Flight Control
Also Weapons Control
Flight Control Pro and
Rudder Pedals
$79

VIDEO BLASTER
BY CREATIVE LABS
$349

SOUND BLASTER 16 ASP
$229

DISCOVERY CD 8
By CREATIVE LABS
Internal CD-ROM 390ms 64K buffer
Stereo Speakers
Sound Blaster Pro 8bit
Toolworks MM Encyclopedia
$399

SOUND BLASTER PRO DELUXE
With CD-ROM Interface
$129

VideoSpigot For Windows
$419

Corel Draw 3
$139

THE MIRACLE
Piano teaching system
$299

Kodak
450GL Digital Color Printer
4" by 5.5" 16 million color Photo Quality
$1290

Kodak Diconix 701
$299

Mitsumi CD-ROM
Drive plus Controller
360ms Access Time
$199

Cakewalk Pro For Windows
$199

Pixar Typestry
Turn Truetype and Type 1 into 3D objects with shadows and Textures. Make 3D Movies. This program is incredable.
$159

Pioneer
6 CD Changer
600 KB/Sec. Transfer
$1295

SuperScan 20"
HITACHI 20 " Color Monitor
1280 x 1024 Non interlaced
$1329

Number Nine
9GXE Level 12
Vesa Local Bus
$439

Playmation
3D Modeling, Rendering and Animation
Create your own Jurasic Park
$339

Toshiba 3401
Internal CD-ROM
$469

Windows NT
Floppy + CDROM
Regular 319
Upgrade 289

Complete Communicator
Voice Mail
$119

Canon
BJ 200 Bubble Jet
$349

Scanman 256
By Logitec
With OCR
$229

Mustek
Hand Scanner with OCR
$99

Mustek
Color Artist Pro
$369

Epson
LQ 570+
24Pin with Scalable Fonts
$259

Plus Books and Magazines

Turtle Beach
MULTISOUND
$529

Gravis
ULTRASOUND
$149

Fontographer
By Altsys
For Windows
$269

10,000
Products instock or available next day from local wharehouses.
We special order every day
Call

Service
We service computers and Software
In store or On site
Call

Epson 2250	Fractal Painter	Logitec Soundman 16	Turtle Tools	Scanman Color	Pro Audio Spectrum	Labtec Speaker Pair	Epson 3250	CPU Fan	Photoshop Windows	Adaptec 1542C	Strike Comander	PC Tools Windows	Mustek OCR Scanner	CD Speedway
$139	$269	$169	$65	$579	$165	$19.95	$189	$19.95	$549	$275	$55	$119	$99	$59

CD-ROM Software

Mayo Clinic Family Healt Book	69.95
Sherlock Holmes Consulting 3	49.95
Day of the Tenticle	44.95
Microsoft Dinosaurs	59.95
Berlitz Think and Talk Spanish	119.00
Women of Venus	29.95
Comptons Interactive Encycl	239.00
PC Karaoke	89.00
Street Atlas USA, Delorme	99.95
Global Explorer by Delorme	99.95
Map Expert by Delorme	275.00

CD-ROM

Motherboards

CLONE MOTHERBOARDS W/CPU	
- 386SX -33 Motherboard	99
- 386DX-40 128 C	159
- 486DX-33 64C	410
- 486DX-50 128C ISA + Local Bus ..... -	619
-486DX2/66 256C ISA + Local Bus	659
VIDEO CARDS	
- Diamond Stealth Pro 2mb ISA.	339
- Diamond Stealth Pro 2mb VLB	349
- Tridend 8900CL 24bit, 1280x1024	149

Hardware

Dexxa Mouse	19.95
Color Monitor 1024 x 768 .28dot	266.00
Labtec SS700 Speaker pair	29.95
Thrustmaster Mark 2 Weaponsl	99.95
Future Doman 850 SCSI Control	49.95
Canon BJ20 Inkjet	399.00
Canon BJ200 Inkjet	349.00
Thumbelina mouse	69.95
Mustek PrinScan 105 Laptop scan..	179.00
Colorado 120 mb backup	169.00
Plus much more ..	

Networking

WINDOWS For WORKGROUPS	
- 2 user starter kit	589.00
- 2 user add on startert kit	389.00
- 1 user add on kit	299.00
- 1 user software (req. win.)	69.00
- 1 user with windows	159.00
LANTASTIC	
- Lantastic Noderunner 2000/C	179.00
- Lantastic Noderunner 2000/T	185.00
- Lantastic Z	89.00

Friendly Software Store

11 years

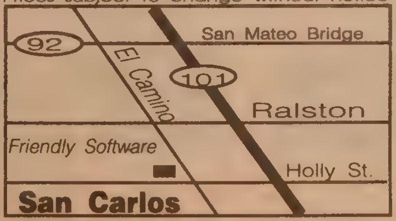
Not responsible for Typographical Errors

376 El Camino Real, San Carlos

415-593-8275

Monday thru Friday . 10:00 to 6:30
Saturday .... 10:00 to 5:00
Sunday .... 12:00 to 5:00

Prices subject to change without notice



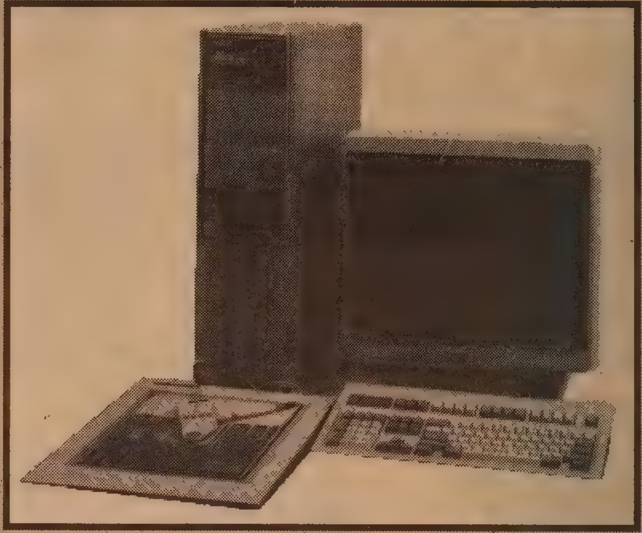
Friendly Software Store

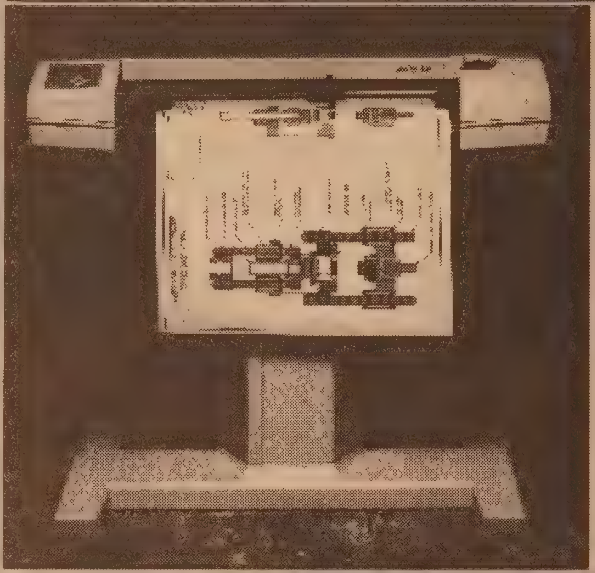
CAD / MULITIMEDIA

CAD VL-bus Workstation

- * 80486 DX2/66 CPU(Ugradable to **P24T CPU**), 256KB Cache
- * **16MB** Memory(32MB Max.), 1.2 & 1.4MB Floppy drive
- * **340MB** IDE Hard drive(13ms), **IDE VL-Bus** Controller
- * Full vertical case, Dual cooling Fan, Heat-Sink
- * **ATI GraphicsUlra Pro VL-Bus** Board(1280X1024, 256 Clolor)
- * **17"** Flat Screen Color Monitor(**1280X1024**), Calcomp **12X12 Digitizer**
- * 101 Keyboard, 2 serial / 1 Parallel port, MS DOS 6.0
- * **Free S/W & H/W Integration**

$3,995





Drawing Manager

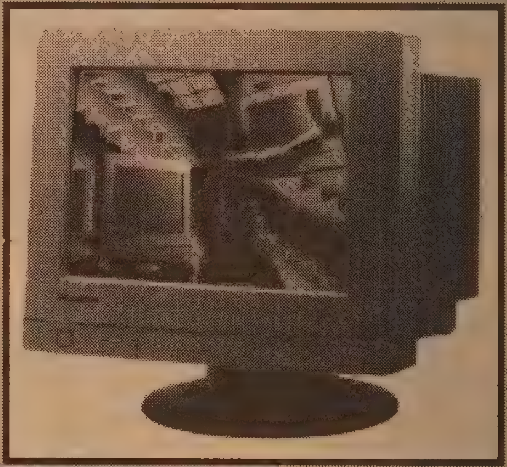
- * Intel 80486DX/33MHz CPU. **8MB** memory, 256KB Cache memory
- * TEAC 1.2MB & 1.44MB FDD, **245MB** IDE HDD, Mouse
- * 2S / 1P ports, 101 Keyboard, Desktop case, DOS 6.0, Windows 3.1
- * **Large size** high resolution scanner (up to **E size,** up to **600dpi**)
- * 1280X1024 Grpahics card (**Tracer 1280**, Upgradableto16MB)
- * Raster background & editing in AutoCAD, Raster to Vector conversion
- * **Complete EDM solutions**(Rasterex S/W & H/W Packages)
- * **Large size digitizer (up to 36X44)**

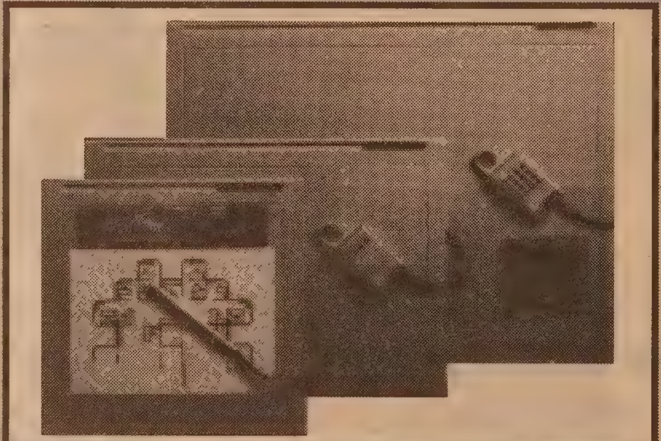
$Call

True Color System

- * 80486DX2/66 CPU, 256KB Cache, MS DOS 6.0
- * 2 **VL-Bus** slots, 3 **EISA** slots, 3 **ISA** slots
- * **16MB** RAM(128MB Max.), **340MB** IDE Hard drive(13ms)
- * **IDE VL-Bus** Controller , Wacom 6 X 9 **Pressure Sensitive** cordless Digitizer
- * **# 9 GXE Level 12 VLB**(64K colors at 1024X768, 1.6 mil. colors at 800X600)
- * ScanMaker II(upto **1200 dpi**)**24 bit** flatbed color Scanner, **PhotoShop LE** software
- * **Fargo Thermal Wax color printer.**(Letter and A4 size, paper and transparencies)
- * **17" Trinitron tube** color monitor, MS Windows 3.1
- * Mid. vertical case, 250W P.S. 2 serial / 1 parallel port
- * **Free S/W & H/W Integration**

$6,595





Interactive Multimedia

IBM

- * **IBM ValuePoint 486/33 System.** 256KB Cache
- * **8MB** RAM(32MB Max.). **240MB** IDE Hard drive. 1.44MB Floppy Drive
- * IBM Mouse, IBM 101 Keyboard, 2 serial / 1 Parallel port
- * Built-in VGA board(1024X768), **Toshiba CD ROM(200ms, 380KB/S)**
- * **Media Vision Proaudio 16** sound card, Amplified speaker
- * **Creative Lab Video SPIGOT** continuous frame capture board
- * includes MS Windows 3.1, Video for Windows, Multimedia ToolBook, -MediaBlitz, Asymetrix Make your point, MS DOS 6.0
- * **Free S/W & H/W Integration**

$3,395

Upgrade Your 286/386 to Fast 486 VEISA computer System

- * 2 Local Bus, 3 EISA, 3 ISA Bus Slots
- * Costomize Your System to your needs
- * 256 KB Cache Standard
- * Free Technical Support, Backup
- * Up to 128 MB RAM Support
- * Call us for best pricing

Hercules #9 METHEUS WACOM intel. MICROTEK *Better Images Through Innovation.*

GRAPHICS / PUBLISHING

WACOM

Pressure Sensitive

SD-510C(6X9)

- With Soft Pressure Sensitive stylus
- Ideal for graphic design and handwriting input

$545

SD-420E(12X12)

- With Firm Pressure Sensitive stylus
- Ideal for CAD, graphic art, desktop publishing

$695

TRUEVISION
A RasterOps Company

Targa+ / ATVista

The Best Multimedia

- TARGA+ 16 / 32 / 64
- ATVista 1M / 2M / 4M
- Bravado
- TIPS
- Truevision 1024 / 32

$Call

matrox

MG3D / MG3D Ultra

MG 3D

- 1024 X 768, 4096 Colors, ISA
- 3D Dynaview for AutoCAD

MG 3D Ultra

- 1280 X 1024, 16 million Colors, EISA
- 3D Dynaview for AutoCAD

$Call

MICROTEK
Better Images Through Innovation.

ScanMaker

ScanMaker II

- Flatbed 24 bit color scanner
- 1200 dpi resolution

$895

ScanMaker 35t

- 24 bit 35mm, film scanner
- 3656dpi,256 gray scale,PhotoStar S/W

$ 1,495

XLI CORPORATION

2400dpi PRINTING

Highest Quality Output

- For HP Laser II, III, Canon
- 256 gray level printing
- 35 PostScript-mached fonts
- 2400 dpi graphics, 1200 dpi text
- Windows, DOS driver

$1,595

HOUSTON INSTRUMENT®
A Summagraphics Company

Ink Jet Plotter (V50)

20X faster

- 360X360 dpi A-C size, Inkjet Plotter
- Up to 20 time faster than Pen Plotter
- HPGL/2, HPGL, Emulates IBM XL24
- 1MB Buffer, 2M & 4M(Optional)
- Single sheet or rollfeed (Option)

$1,595

FARGO

Primera Color Printer

Thermal Wax Printer

- 4X faster than Inkjet
- Presentations graphics, transparencies
- Windows 3.1 Driver
- Very low cost to operate
- Deliver rich and vibrant Images
- **Photorealistic Upgrade**($249)

$895

intel®

Smart Video Recoder

Video Capture Board

- Captures up to 30 frames per second
- Intel i750 Video Processor built in
- 2X faster than other Capture Board
- Capture, Compress, Store in one step
- Asymetrix MediaBlitz and Compel S/W
- MS Video for Windows, Intel Software

$475

MONITORS

* 37" Mitsubishi Scan/Pro	$ Call
* 33" Mitsubishi Diamond Scan	$ Call
* 21" NEC 6FG	$2,495
* 21" IDEK 5421A	$2,295
* 21" Hitachi Accuview PS21	$2,195
* 21" NSA SuperScan Pro21	$2,095
* 21" Nanao F750i	$2,195
* 20" Ikegami CT20A(Trinitron)	$1,995
* 20" Ikegami CN20A	$1,495
* 20" Seiko 2070LR	$2,195
* 20" Nanao T660i	$2,495
* 20" SONY 2038	$2,295
* 20" Mitsubishi DiamondPro20	$2,195
* 20" NSA SuperScan 20S	$1,395
* 20" Sampo AlphaScan	$1,095
* 17" Mag	$1,095
* 17" NEC 5FG	$1,495
* 17" Nanao T560i	$1,895
* 17" Nanao F550iw	$1,145
* 17" Mitsubishi Diamond Pro17	$1,095
* 17" Sony 1730S	$1,095
* 17" NSA SuperScan17	$ 995
* 14" Sampo AlphaScan	$ 395

GRAPHICS CARD

* RASTEREX Tracer 1280	$2,695
* SPEA 1280	$1,695
* #9GXI TC L29	$1,495
* #9GXI L23 / 25	$1,095 /1,395
* #9GXE L11 / 12	$ 395 / 445
* Artist XJS 12-16	$2,195
* Artist XJ1000	$1,195
* Artist Winsprint 1000	$1,135
* Hercules Graphite	$ 345
* Metheus 1104+16/256	$995/1,095
* Metheus Premire 1M/2M	$375/575
* Matrox 3D Ultra	$ Call
* Matrox MGA 2M/3M	$695/995
* Matrox Impression AT	$1,395
* MediaVision ProGraphics	$ 845
* Vermont X/Series 16/256	$1595/1795
* Vermont Cobra Elite	$ 995
* Super Mac Spectrum 24	$ 945
* Diamond VIPER VLB 2MB	$ 445
* ATI Graphics Ultra Pro 2MB	$ 450
* ATI Graphics Ultra + 2MB	$ 350
* TrueVision 1024/32	$1,595
* TrueVision 1024XP/24	$1,295

PLOTTERS

* Calcomp 2036 (A-E)	$4,095
* Calcomp 2024 (A-D)	$3,195
* HP DesignJet (A-E) 600 dpi	$6,595
* HP DesignJet (A-D) 600 dpi	$5,495
* HP DesignJet 650C(A-D)	$7,095
* HP DesignJet 650C (A-E)	$8,495
* HP 7599B (A-E)	$7,695
* HP 7596C (A-E)	$6,695
* HP 7595C (A-E)	$5,295
* HP DraftPro + (A-E)	$4,195
* HP DraftPro + (A-D)	$3,195
* HP 7475A (A-B)	$1,495
* H.I.DMP 162R (A-E)	$4,385
* H.I. HIPLOT 7100 (A-D)	$2,795
* H.I. HIPLOT 7200 (A-E)	$3,495
* H.I. JetPro (A-C) V 50	$1,595
* H.I. JetPro (A-C) V100	$2,495
* Enter SP600 (A-B)	$ 695
* Mutoh XP-511 (A-D)	$ Call
* Roland GRX350 (A-D)	$3,495
* JDL 850XP-1M (A-C)	$2,895
* AMT Accel244 (A-C)	$ 895
* PacificData InkJet (A-C)	$1,195

DIGITIZERS

* Calcomp 44 X 60	$1,895
* Calcomp 36 X 48	$1,695
* Calcomp 18 X 24	$1,295
* Calcomp 12 X 18	$ 645
* Calcomp 12 X 12	$ 289
* Calcomp 6 X 9(P.Sen)	$ 350
* Summa S. MG2 36 X 48	$2,995
* Summa S. MG2 24 X 36	$2,595
* Summa S. MG2 17 X 24	$2,195
* Summa S. III 12 X 18	$ 595
* Summa S. III 12 X 12	$ 315
* Kurta XGT 12X12	$ 645
* Kurta IS/ONE 12X12	$ 345
* Kurta IS/ONE 12X17	$ 595
* WACOM 6X9(P.Sen)	$ 545
* WACOM 12 X 12(P.Sen)	$ 695
* WACOM 12X18	$1,195

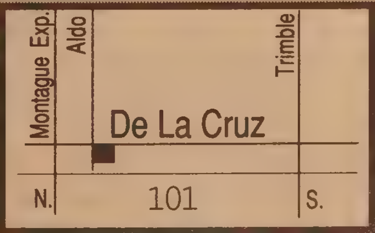
COLOR PRINTERS

* Seiko ColorPoint PSX	$4,995
* Seiko ColorPoint PSE	$2,595
* Mitsubishi S3410 (DyeSub)	$6,995
* Fargo Primera(Thermal Wax)	$ 895

JEMINI
ELECTRONICS
The house of CAD & Graphics Equipment
Mon - Fri : 8-6 Sat : 10-4

3448 De La Cruz Blvd., Santa Clara, CA 95054
Phone (408)727-9986 Fax (408)727-7687

- Price reflects 3% cash discount
- Price subject to change without notice
- Not responsible for typographical errors
- All trademarks belong to their respective companies



☎ Free Technical Support. ☞ New Low Price ! ✆ Please call for other products

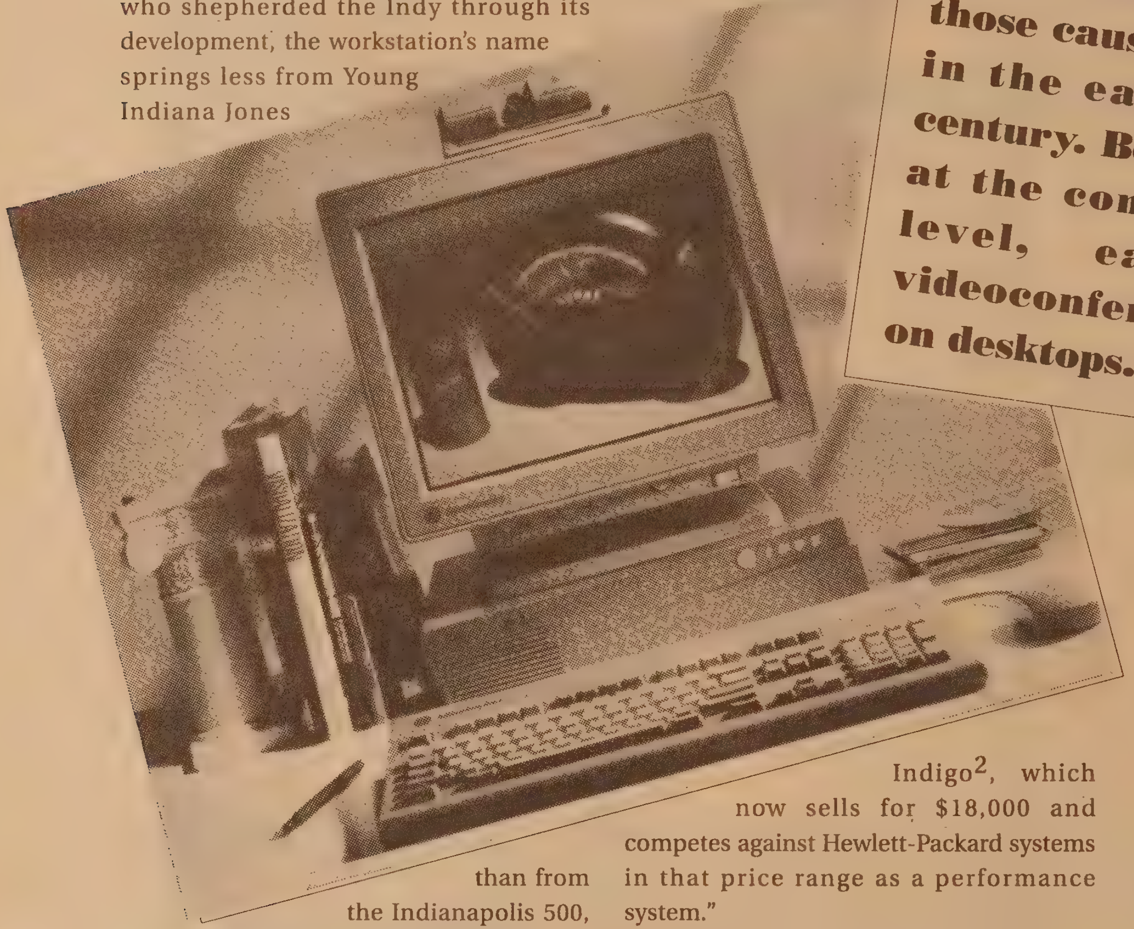
NANAO® CalComp A Lockheed Company RASTEREX HEWLETT PACKARD

continued from page 284

that we saw looked very impressive, serious shoppers would certainly want to test the performance of their particular software, working through all the features and choices of, say, Macromedia Director or Harvard Graphics.)

BEYOND INDIGO

According to Scott Bonham, Product marketing manager, Digital Sight & Sound, who shepherded the Indy through its development, the workstation's name springs less from Young Indiana Jones than from the Indianapolis 500, and also, of course, from SGI's Indigo^2 graphics workstation line. But there's more to Indy than an econobox version of the Indigo^2 configuration.



"Indy," Bonham explains, "is not another version of the Indigo; it is a new product. Indy is a result of a new manufacturing process. We've got higher levels of integration of our ASICS chip technology and VSLI design principles. What we do every two years is basically take a generation of technology and condense it to high levels of integration, so we have reached cost-effectiveness due to that, and through the higher sales volumes that we know we are going to achieve. On Indy, for example, the R&D is actually done earlier on other products. That allows us to get to market sooner. We don't have to debug as much, and we just make it smaller."

"It's part of the Indigo family—but in some ways it's gone way past Indigo; Indigo doesn't have the expanded features, such as the video capabilities. Indy just doesn't have the 3-D graphics performance that Indigo has. The audio subsystem we've put in Indy is the same one that is in Indigo^2, which is a higher-end system. We took a lot of the elements of Indigo^2, which now sells for $18,000 and competes against Hewlett-Packard systems in that price range as a performance system."

As for Indy's positioning with regard to its pricier relatives: "Our positioning of Indigo^2 was extreme performance in graphics and speed," says Bonham. "So, for Indy, we kept the Indigo^2's system bus, and a lot of the other hardware there, and just stuck it in Indy. This speaks to the price reduction seen in this machine—we didn't have to design Indy from the ground up. We took a lot of the chips from higher-end systems.

"What you're getting in Indy is higher-end performance; but at the same time, we have had to be careful not to cannibalize Indigo^2 sales. So we have to be very clear on how we differentiate the two products.

"Indy is really addressing the 2-D market, and Indigo^2 really met the 3-D solids market. While Indy is a 3-D-capable machine, its 3-D work is supported by the CPU and memory. So Indy has a soft Z-buffer, for example, while Indigo^2 has a hardware Z-buffer in most of its graphics configurations. That allows you to get the real 3-D solids modeling performance that the Indigo^2 creates and delivers.

Videoconferencing will cause social changes as profound as those caused by the telephone in the earlier part of this century. Before it is available at the common videophone level, easy single-user videoconferencing will start on desktops.

"In the short term, if you know that you want real solid 3-D modeling, you will be directed towards an Indigo^2 purchase. Indy does have some 3-D capabilities. It has all the feature set of the Indigo^2; it just lacks its performance. So if you are looking at playback, or just want to pull up a 3-D image that was created on an Indigo^2, you can do that on an Indy. For just simple 3-D stuff, Indy's fine, but when you really want to get into serious 3-D, then it's definitely one of the configurations of the Indigo^2. We designed the Indy so that it has a long life, and there are removable graphics cards that go from 8-bit to 24-bit graphics. It's not inconceivable that we could have something here in the future that has a hardware Z-buffer."

Who are Indy's competitors in the marketplace today? "Indy has a complex marketing problem," says Bonham. "It's so powerful, in so many different ways, that it could be in a number of markets, such as 2-D CAD. In that market we will be competing against Hewlett-Packard and Sun Microsystems in the lower-end workstations, and high-end PCs. In the imaging and digital media markets, we will really be competing against high-end Macintoshes.

INDY IN A MULTIVENDOR ENVIRONMENT

How would a high-end Mac multimedia shop integrate Indy into

RESOURCES

Silicon Graphics Computer Systems
2011 N. Shoreline Blvd.
P.O. Box 7311
Mountain View, CA 94039-7311
(415)390-3593
fax:(415)390-6060

Apple Computer, Inc.
20525 Mariani Ave.
Cupertino, CA 95014
(408) 996-1010

COMPUEXPO '93

Reseller Passport to The Future

"I need a place to shop for things I haven't seen before"

"If selling on price isn't working, how do we sell?"

"It's vital to know what markets are becoming a commodity and which ones to get out of"

"In today's market it's crucial to sell on value"

Visas
September 9-11, 1993
Las Vegas
ASCII PAVILION
Las Vegas, 1993
TAIWAN PAVILION
PASSPORT
14

"We're always looking for more places to buy products and service"

"It's crucial to find technology that allows me to compete against the major brands"

"To be competitive our company actively seeks out new vendors and new ways to add value"

"Where can I meet Asian manufacturers without going to Asia"

Be There!

COMPUEXPO '93 • GLOBAL PC TRADE SHOW

Sept. 9-11, 1993 • Las Vegas Convention Center • Nevada, USA

Co-Sponsored By INFO WORLD · COMPUTER TECHNOLOGY REVIEW® · ASCII THE ASCII GROUP, INC. · MICROTIMES · INFO WORLD Direct · THE ASM GROUP The Asian Sources Media Group

FAX BACK RESPONSE

☐ I am interested in exhibiting at COMPUEXPO; please send me exhibitor information.
☐ I am interested in attending COMPUEXPO; please send me attendee information.
☐ Have a representative call me.

Name ______________________ Mr. ☐ Mrs. ☐ Ms. ☐

Company ______________________ Title ______________________

Address ______________________

City ______________________ State __________ Zip __________

Phone ______________________ Fax ______________________

My company's primary business activity:

☐ Manufacturing ☐ VAR ☐ Reseller ☐ Distributor ☐ System Integrator ☐ Other: __________

Fax back today to receive more information on COMPUEXPO '93!

Fax: (510) 657-3499

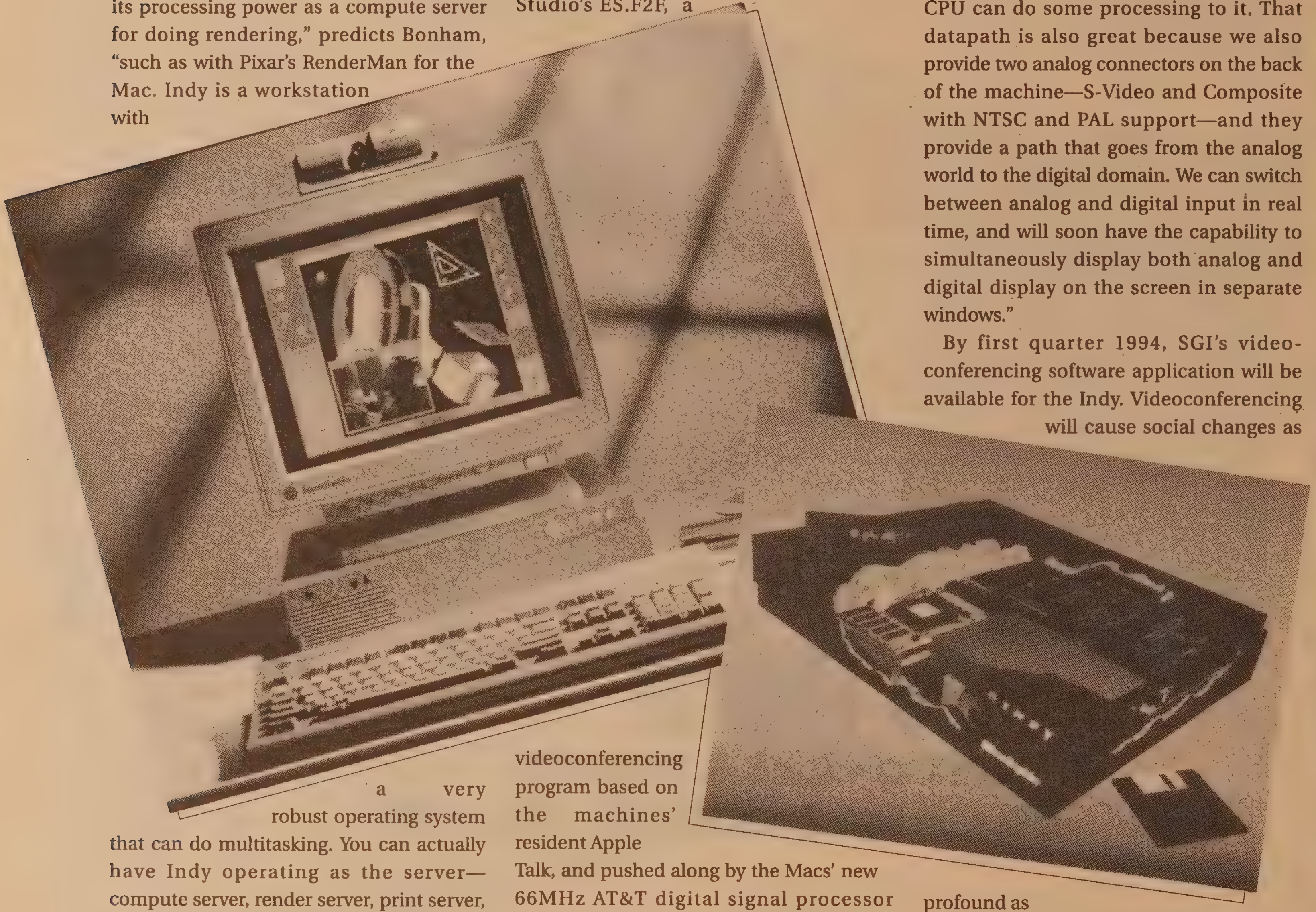
COMPUEXPO
Marketing Edge & Technology Source

September 9-11, 1993
Las Vegas Convention Center
Las Vegas, Nevada, USA
Hosted by
UNSC Investment Group
39899 Balentine Dr., #175, Newark, CA 94560-9902
Tel: (510) 657-3418 • Fax: (510) 657-3499

MT

their production process?

"People will get an Indy in house and use its processing power as a compute server for doing rendering," predicts Bonham, "such as with Pixar's RenderMan for the Mac. Indy is a workstation with a very robust operating system that can do multitasking. You can actually have Indy operating as the server—compute server, render server, print server, file server—and a workstation at the same time. We have applications from third-party vendors that allow an Indy to plug into a Mac network, so that it can either be a client or a server in that environment. Also for a PC environment. It can receive floppies from a Mac, and drivers read the HFS file system or PC system."



DESKTOP VIDEOCONFERENCING— HERE AT LAST:

Both Silicon Graphics and Apple Computer are at the forefront of personal computing in recognizing the need for practical desktop videoconferencing. The Indy comes bundled with SGI's IndyCam, plus the hardware and software to support videoconferencing. Apple's new audiovisual (AV) Macs will be shipping in volume at about the same time as the Indys—in the fourth quarter of this year. Both the 40MHz 68040 Quadra 800AV and the 25MHz 68040 Centris 660AV will come bundled with The Electronic Studio's ES.F2F, a videoconferencing program based on the machines' resident AppleTalk, and pushed along by the Macs' new 66MHz AT&T digital signal processor (DSP).

SGI's bundling of a proprietary digital color video camera in a low-cost system like Indy bespeaks a very serious bet on the future of desktop video and videoconferencing.

The IndyCam is a very robust monitor-top digital camera, based on a previous model from Teleview Research, that provides computer control over shutter speed, brightness and color balance on a circuit board about the size of a credit card. It includes a built-in analog microphone.

Explains Bonham, "We took the Teleview, but threw away the analog circuit. That reduces the cost, and it's simpler with digital-only. The datapath goes from the CCD (charge-coupled device) from the camera to the Indy's video-in circuitry, which sits on the system bus. The independent video bus runs at 267-Mbits per second, which allows you to take full NTSC color into memory at thirty frames per second (full-motion video); we have such a wide bandwidth at that point, the CPU can do some processing to it. That datapath is also great because we also provide two analog connectors on the back of the machine—S-Video and Composite with NTSC and PAL support—and they provide a path that goes from the analog world to the digital domain. We can switch between analog and digital input in real time, and will soon have the capability to simultaneously display both analog and digital display on the screen in separate windows."

By first quarter 1994, SGI's videoconferencing software application will be available for the Indy. Videoconferencing will cause social changes as profound as those caused by the telephone in the earlier part of this century. Before it is available at the common videophone level, easy single-user videoconferencing will start on desktops.

The IndyCam's design reflects some insight into human techno-shock. As the videophone moves into the cubicle and the home, there's a new awareness of visual vulnerability and privacy issues driving user resistance to the technology. There will be moments when a user will want to communicate in "voice only," so videoconferencing is made optional—the camera can be simply turned on or off, with an indicator light signaling its status. The IndyCam has a sliding cover on the shell, which hides the lens in a reassuringly physical way.

With the SGI Indy and the Mac AVs, videoconferencing is coming within arm's reach. It will certainly put a new face on computer dating. ■

SYSTEMS	MB with CPU	BARE SYSTEM	Bare System 130MB HD SVGA 1MB Monitor (.28) 4MB Ram	Bare System 212MB HD 1.2 & 1.44 FD SVGA 1MB Monitor (.28) 4MB Ram	Bare System 250MB HD 1.2 & 1.44 FD SVGA 1MB Monitor (.28) 4MB Ram	Bare System 340MB HD 1.2 & 1.44 FD SVGA 1MB Monitor (.28) 4MB Ram
486DX2-66 / 128K VESA	$595.00	$735.00	$1,395.00	$1,505.00	$1,525.00	$1,595.00
486DX2-50 / 128K VESA	$495.00	$635.00	$1,295.00	$1,405.00	$1,425.00	$1,495.00
486DX-33 / 128K VESA	$395.00	$535.00	$1,195.00	$1,305.00	$1,325.00	$1,395.00
486SX-25 / 128K VESA	$220.00	$360.00	$1,020.00	$1,130.00	$1,150.00	$1,220.00
486DX2-66 / 128K ISA	$565.00	$685.00	$1,325.00	$1,435.00	$1,455.00	$1,525.00
486DX-50 / 128K ISA	$525.00	$645.00	$1,285.00	$1,395.00	$1,415.00	$1,485.00
486DX2-50 / 128K ISA	$465.00	$585.00	$1,225.00	$1,335.00	$1,355.00	$1,425.00
486DX-33 / 128K ISA	$375.00	$495.00	$1,135.00	$1,245.00	$1,265.00	$1,335.00
486SX-25 / 128K ISA	$195.00	$315.00	$955.00	$1,065.00	$1,085.00	$1,155.00
486SLC2-66 with math-co	$349.00	$469.00	$1,109.00	$1,219.00	$1,239.00	$1,309.00
486SLC2-50 with math-co	$329.00	$449.00	$1,089.00	$1,199.00	$1,219.00	$1,289.00
486DLC-33 / 128K ISA	$165.00	$285.00	$925.00	$1,035.00	$1,055.00	$1,125.00
486DLC-40 / 128K ISA	$195.00	$315.00	$955.00	$1,065.00	$1,085.00	$1,155.00
386DX-40 / 128K ISA	$129.00	$249.00	$889.00	$999.00	$1,019.00	$1,089.00
386SX-33 ISA	$85.00	$205.00	$845.00	$955.00	$975.00	$1,045.00
BARE SYSTEM Configuration	MiniTower Case with 200Watt Power Supply, Motherboard with CPU, AMI Bios, IDE HD/FD Controller, 2 Serial, 1 Parallel, 1 Game Port, 1.2MB or 1.44MB Floppy Drive and 101 Enhanced Keyboard					

Multimedia 486-33

Minitower Case / PS
Motherboard with CPU / 128K
Cyrix 486DLC 33MHz CPU
4MB SIMM Memory
IDE HD/FD Controller I/O
1.2MB and 1.44MB Floppy Drives
Maxtor 130MB Hard Drive (15ms)
16 Bit Super VGA with 1MB
14" Super VGA Monitor (0.28)
101 Enhanced Key Keyboard
Microsoft Compatible Serial Mouse
Zoltrix Pro Audio Sound Blaster 2.0
MITSUMI CD-ROM (PHOTO CD)
Pair of Stereo shielded speakers
CD titles listed below included
Groliers Encyclopedia (MPC)
Mavis Beacon Typing Tutor (MPC)
US Atlas (Windows)
World Atlas (Windows)
Chess Master 3000 (MPC)
Mixed-Up Mothergoose

$1,199.00

16 BIT Multimedia Kit $539

RO AUDIO 16 by Media Vision
EXEL DM-3024 Internal CD-ROM Drive
65ms, Multisession Photo CD, XA Ready, 300K/Sec
air of Stereo Speakers, Audio & SCSI Cables, Drivers
our Choice of CD-ROM Package below INCLUDED

Deluxe CD Pack
roliers Encyclopedia, US & World Atlas (Windows)
avis Beacon's Typing Tutor , Chess Master 3000 (MPC)

Multimedia Starter Kit $348

SOUND BLASTER PRO by Creative Labs
MITSUMI Photo CD-ROM Drive (Internal)
350ms, Multi-session Photo CD, 150K/Sec, made in JAPAN
Pair of Stereo Speakers, Audio & Cables, Drivers
Your Choice of CD-ROM Package below INCLUDED

CD 5 Game Pack
King Quest V, Jones in the Fast Lane, Stellar 7,
Sherlock Holmes, Mantis Experimential Fighter

Multimedia Starter Kit $279

Zoltrix Pro Audio (Sound Blaster 2.0 Compatible)
MITSUMI Photo CD-ROM Drive (Internal)
350ms, Multi-session Photo CD, 150K/Sec, made in JAPAN
Pair of Stereo Speakers, Audio & Cables, Drivers
Your Choice of CD-ROM Package below INCLUDED

Children's CD Pack
Compton's Family Choice, Arthur's Teacher Trouble,
Carmen San Diego, US Atlas and World Atlas

CD-ROM Drives	
ITSUMI LU005S Internal (350ms)	**$179.00**
EC CDR-84J Internal (280ms)	**$419.00**
anasonic CD-522 Internal (385ms)	$199.00
EAC CD-50 Internal (270ms)	$399.00
EXEL DM3024 Internal (265ms)	$349.00
oshiba 3401B Internal (200ms)	**$419.00**

MODEMS	
GVC 14,400 Internal FAX/Data (16550 UART	$159.00
GVC 2400 Internal Modem	$29.00
Zoltrix 14,400 Internal FAX/Data Modem	$149.00
Zoltrix 14,400 External FAX/Data Modem	$185.00
9600/2400 Send/Receive FAX/DATA	**$49.00**
Zoltrix 9600/2400 Fax/Data Modem	$30.00

Computer Chasis / PS	
Deluxe Minitower / Power Supply	$50.00
Medium Tower Case / Power Supply	$69.00
Deluxe Baby AT Case / Power Supply	$65.00
Full Tower Case / Power Supply	$99.00
Slim Power Supply 230 Watt	$39.00
Full Tower Power Supply 250 Watt	$49.00

Keyboards	
01 Enhanced Key Keyboard	$19.00
01 Enhanced Keyboard - Click	$25.00
itsumi 101 Enhanced Keyboard	$25.00
axiswitch 101 Enhanced Keyboard	$33.00
eytronics 101 Keyboard	$38.00
ocus Keyboards	CALL

Tape Back Ups, Controllers	
Archive 250MB Tape Backup/Tape	$175.00
Colorado 250 Tape Backup	$195.00
IDE HD/FD Controller with I/O	$14.00
Promise VESA IDE HD/FD with I/O	$39.00
Adaptec SCSI 16 bit 1522	$95.00
Adaptec SCSI 16 bit 1542C	$195.00

Sound Cards	
PRO AUDIO 16 by Media Vision	$149.00
Sound Blaster PRO Deluxe	**$119.00**
Sound Blaster 16 A.S.P.	**$199.00**
Video Blaster by Creative Labs	$335.00
Galaxy NX PRO	$139.00
Zoltrix Audio Plus Sound Card	$49.00

Miscellaneous	
1/2" High Density Floppy Disk	**$0.60**
1/2" Low Density Floppy Disk	$0.50
M DC-2120 Tape	$18.99
abtec Stereo Speakers	$19.95
agnetic Shielded Speakers	$9.95
oystick	$19.95
ath Co-processors	CALL
icrosoft Compatible Mouse	$9.95
86SX-33MHz Motherboard	$85.00
86DX-40MHz / 128K Motherboard / CPU	$129.00
yrix 486DLC-33MHz Motherboard	$165.00
tel 486DX-33MHz / 128K MB / CPU	$375.00
tel 486DX2-66MHz / 128K MB / CPU	$565.00
tel 486DX-33MHz VESA 128K MB / CPU	$388.00
M SLC2-50MHz Motherboard / CPU	$325.00

Video Cards & Monitors	
Trident 16 bit 8900C (1MB)	$59.00
Windows Accelerator (1MB)	$59.00
Standard VGA 16 bit (256K)	$35.00
Cirrus Logic VESA (1MB)	$88.00
Genoa 8500VL VESA (1MB)	$109.00
Orchid Fahrenheit 801VA	$155.00
Orchid Fahrenheit 805 VESA	$155.00
Orchid Celcius VESA	$225.00
Orchid P-9000 VESA (3MB)	$365.00
14" Standard VGA	$175.00
14" Super VGA (0.28) 1024X768	$235.00
14" Super VGA (0.28) Non-Interlaced	$259.00
ADI 3e SVGA (0.28) Non-Interlaced	$325.00
ADI 4a Flat Screen 15"	$415.00
Viewsonic Monitors	Call

Floppy / Hard Drives	
Chinon 1.2MB or 1.44MB Floppy Drives	$49.00
TEAC 1.2MB or 1.44MB Floppy Drives	$50.00
Maxtor 7120AT 130MB (15ms)	$169.00
Maxtor 7131AT 131MB (15ms)	$195.00
Maxtor 7213AT 212MB (15ms)	$219.00
Maxtor 7245AT 245MB (15ms)	$239.00
Maxtor 7345AT 340MB (14ms)	$329.00
Western Digital Caviar 2200 212MB (13ms)	$219.00
Western Digital Caviar 2250 255MB (13ms)	$239.00
Western Digital Caviar 2340 340MB (13ms)	$319.00
Conner CP30104 120 MB (17ms)	$169.00
Conner CP30174 170MB (17ms)	**$179.00**
Conner CP30204 212MB (15ms)	$229.00
Conner CP30254 255MB (12ms)	$239.00
Conner CP3544 545MB (12ms)	$595.00

KONICOM

1510 NORIEGA STREET
SAN FRANCISCO, CA 94122
TEL : (415) 664-3268
FAX : (415) 664-0883

Any CD-ROM purchased
will be installed free !

- Prices subject to change without notice
- Prices advertised are cash or cashier's check only
- Not responsible for typographical errors
- Lifetime labor and 1 year parts warranty
- All logos or marks are trademarks or registered trademarks of the products with which the marks are associated.

BUSINESS HOURS : MON-THU : 9:30AM TO 7PM FRIDAY : 9:30 TO 8PM SATURDAY : 10AM TO 6PM

Multi Media & beyond

Retina:

High-Resolution 24-Bit Display For The Commodore Amiga

BY DOUGLAS J. NAKAKIHARA

The Amiga has always enjoyed lightning-fast graphics that would be difficult, if not impossible, to achieve on other PC platforms. This performance is a result of the Amiga's custom chip set.

However, because of this design, it is difficult to upgrade the video display, unlike the PC world where you pop the "display card of the week" into your computer and off you go. Many people may be surprised that even the newest model Amiga does not have a native 24-bit display. Its HAM8 mode is capable of 262,000 colors, but this is a far cry from sixteen million.

Fortunately, third-party developers offer many add-on 24-bit display cards. Historically, the problem with these has been that you could not view Amiga applications on them unless the application was specifically written to support the display card. As a result, two monitors were generally required.

THE RETINA SOLUTION

Finally, there's a single-monitor solution: The Retina display card from Macro System. The Retina can emulate all native Amiga displays, including the new AGA modes.

The maximum resolution for a 24-bit display is 1152 x 862; for a 16-bit display it is 1280 x 1024, while a 8-bit display can go up to 2400 x 1200. The maximum resolution is also dependent on your monitor's capabilities. Horizontal frequencies from 15 to 75KHz and vertical frequencies of 50–95Hz are supported, so it is compatible with most multi-scan and VGA monitors, including the Commodore 1950 and 1960. Display modes can be interlaced or non-interlaced, so no de-interlacing device is necessary. Amiga owners now have access to the myriad of available monitors and no longer have to worry if their display of choice supports the standard Amiga 15.75-31.5KHz horizontal frequency rate, which many do not.

The Retina has its own on-board RAM in

Copyright © 1993 by Douglas J. Nakakihara. All rights reserved.

Positive Solution Computer, Inc.

DBA PS Computer

TM

Multi-Media On Display

VISA COD MasterCard

We Will Repair or Upgrade Your System!

PS 486 VESA Local Bus 256K Cache System

Intel is using the Same Motherboard to Demo the Pentium Chip at Comdex '93

- Pentium Upgradable with ZIP Chip Socket on Motherboard
- 8MB RAM (70ns) exp. to 32MB
- 250MB Conner (14ms) Hard Drive
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drives
- 32 bits IDE VESA LB Controller
- 2 Serial, 1 Parallel, and 1 Game Ports
- 32 bits Cirrus Logic VESA Local Bus SVGA Card w/ 1MB Memory
- Mini tower or Desktop Case with Power Supply
- 101 Enhanced Keyboard
- 3-Button High Quality Mouse
- 14" Proton 1280x1024, .28 SVGA Non-Interlaced Monitor • Heat Sink for CPU
- 7 Year Labor Warranty, 1 Year Parts

486DX2-66MHz $1895

486DX-33MHz $1695

PS 486DX-50MHz 256K Cache System

- 4MB RAM (70ns) Expandable to 32MB
- 250MB Conner (14ms) Hard Disk
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drives
- 1:1 Interleave 2HD/2FD IDE Controller
- 2 Serial, 1 Parallel, and 1 Game Ports
- Real Time Clock w/Battery Backup
- Mini tower or Desktop Case with Power Supply
- 101 Enhanced Keyboard
- 1MB Trident SVGA Card
- Proton 14" (non-interlaced) 1280 x 1024, .28 dot SVGA monitor
- 3-Button High Quality Mouse
- Heat Sink for CPU
- 7 Year Labor Warranty, 1 Year Parts

$1485

PS 486DX-33MHz 128K Cache System

- 4MB RAM (70ns) Expandable to 32MB
- 120MB Conner HD
- 1.2MB 5.25" and 1.44MB 3.5" Floppy Drives
- 1:1 Interleave 2HD/2FD IDE Controller
- 2 Serial, 1 Parallel, and 1 Game Ports
- Real Time Clock w/Battery Backup
- Mini tower or Desktop Case with Power Supply
- 101 Enhanced Keyboard
- 1MB Trident SVGA Card
- Arche 14" 1024x768, .28 dot SVGA monitor
- 3-Button High Quality Mouse
- Heat Sink for CPU w/486
- 7 Year Labor Warranty, 1 Year Parts

$1245

PS 386DX-40MHz/128K Cache $975

MULTIMEDIA PRODUCTS

COMPVIDEO 2 Image Viewing Card/Box (VGA to TV Converter)

- Put RGB Signal from VGA Output to TV (NTSC/PAL)
- Presents Your Text/Graphics to TV/VCR without Flicking
- Card Type (for Desktop PC) or Box Type (for Notebook).

$295

COMPVIDEO 3 Image Capture Board (Frame Grabber)

- Realtime Color Video Digitizer with Scale, Crop, Zoom functions
- Puts 2 Million Colors to VGA Modes 640x480 w/64K High Color
- 2 Stereo Input (4 Stereo Modes). Links w/Sound Card.
- Supports Microsoft AVI driver.

$385

Powerblaster plus microphone

- 100% Soundblaster compatible

$58

NEW!

Concurrent's New 5 in 1 Audio Board

Concurrent Sound System™, the world's leading audio board, has the highest level of software compatibility and amazing hardware performance. It gives you simultaneous hardware compatibility with Adlib™ (FM Music), Sound Blaster™ (8 bit audio), Microsoft™ Windows Sound System (16 bit audio) Roland™ MT32 & SCC-1 (PCM Music) & General MIDI™ Instrument, Windows 3.1 (MPC) Audio Level II, and is equipped with a CD-ROM Interface

$350

Come in and let us show you this amazing product!

AT-75 Super HI-FI Amp SP

- Full Range Loud Speakers 4x4"
- Power Output 80 Watts PMPO
- Color White or Black

$100

25 Watt	50 Watt
$40	$60

Mitsumi CD-ROM 16bit Controller Card

$185

New MicroSoft Curve Mouse

$65

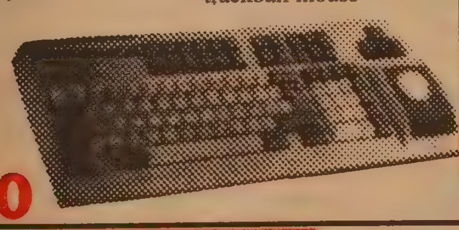
Full Page Scanner 600 dpi Color

$599

Title	Price
14000 Public Domain Software	20
A Christmas Carol	27
A Survey of Western Art (English)	30
Aesops Fables	18
Animals V.10	21
Audobons Birds of America	20
Audobons Mammals	20
Art History Ency. Vol 1 (Spanish)	38
Barron's College Guide	36
Battle Chess	26
Beauty and the Beast	15
Business Background	20
Business Assistant	15
CD Game Pack II	15
CD Game Pack II	30
CD Storytime	42
Chessmaster 3000 Multimedia	25
Cica MS Windows (Utility, Fonts, Etc.)	20
Color It	25
Colossal Cookbook	30
Compton's Family Choice	25
Compton's Family Encyclopedia	47
Compton's Interactive Encyclopedia	185
Compton's Multimedia Encyclopedia (DOS)	99
Compton's Multimedia Encyclopedia (WIN)	99
Compton's Multimedia Encyclopedia	125
Desert Storm: War in the Persian	27
Don Quixote	20
Deep Voyage	29
Eco Quest	30
Family Doctor	22
Family Education Collections	40
GIFs Galore (Color Images)	20
Great City of the World	25
Guiness Disc of Records '93	25
Guiness Disc of Records '92	23
Impressionism & Its Sources	32
Interactive Storytime Vol. 1	20
Interactive Storytime Vol. 2	20
Island Design	26
Jets & Props	22
Jones in the Fast Lanes	25
Jokes & Pranks	16
KGB / CIA	27
King Quest V	25
Library of the Future (450 Titles)	82
Loom	25
Learning Adventure	16
Majestic Places	20
Mammals by National Geographic	25
Mavis Teaches Typing	25
Mayo Clinic Family Health Book	26
Midi Music Workshop	32
Mother Goose	22
Mixed-up Mother Goose	26
Monkey Island	30
Money, Money, Money	25
Mowgli's Brothers	18
Mozart	15
Mutimedia Computer Tutor	30
Moving Fantasies (Adult Movie)	35
Sound Blaster Master Disc w/Windows 3.1	25
My First Time (Adult Movie, 2 Disc)	59
National Geographic Mammal	38
PC Karaoke	30
Peter & the Wolf	15
Playing with Language - German	25
Playing with Language - Spanish	25
Playing with Language - French	25
Playing with Language - English	25
Playing with Language - Japanese	25
Publish It	32
Renaissance Master I	27
Renaissance Master II	27
Secret Weapon of the Luftwafe	25
Shakespeare on Disc	20
Sherlock Holmes on Disc	17
Sleeping Beauty	15
Software Juke Box	22
Sound Effect Library	32
Sound Library (CD, Wave, Midi)	20
Space Quest IV	28
Sport's Best	30
Stellar 7	25
Talking Classic Tales	45
Talking Jungles Safari	45
The Family Education Collection	33
The Star Child	15
The White Horse Child	15
Time Table Science & Innovation	38
Time Table Art & Entertainment	30
Time Table Bus., Pol., & Media	30
Toolworks Multimedia Encylopedia	77
Toolworks Reference Library	30
Total Baseball	30
The Adult Reference Library	42
The California Collection (Shareware)	15
The Original Shareware 1992	15
The New Basics Electronic Cookbook	35
U.S. World Atlas Combo	36
Visual Fantasies I (Adult Picture)	45
VGA Spectrum	15
Where in the World is Carmen Sandiego	40
Wild Places	20
Wind Commander / Ultima VI	25
Wizard	10
World View	18
World Atlas for V3.2	25
World Library (Greatest Books Collection)	30
World Library (Electronic Home Library)	35

KeyCat Keyboard

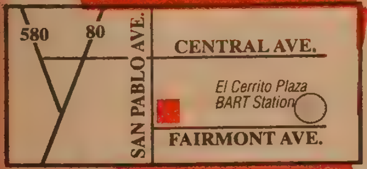
101 Enhanced Keyboard with built-in serial trackball mouse



$60

SPECIALS

Proton 14" 1280x1024, .28 SVGA Non-Interlaced Monitor	$285
120/250MB Colorado Tape Backup	145/180
9600 FAX Send 2400 Internal Modem	35
9600 FAX/2400 Modem	50
w/Bit FAX for Windows	52
Full Tower Case w/250 Watt Power Supply	99
9600 FAX/2400 Modem Pocket	95
14,400 FAX/14,400 Modem	145
Mini Tower w/200 Watt Power Supply	60
Medium Tower w/230 Watt Power Supply	80
Full Tower w/250 Watt Power Supply	99
Desktop Case w/200 Watt Power Supply	65
3-Button Mouse	9.50
Logitech Mouseman	45
Microsoft Mouse	50
Logitech Trackman	75



10032 San Pablo Ave.
El Cerrito, CA 94530
TEL. (510) 527-6908

OPEN 6 DAYS
Mon-Sat: 9:30am to 6pm
FAX (510) 527-3823

Resellers Only Wholesale Club
Call in for wholesale price list
800-597-0222

You Can Count on Our Best Price and Qualified Service! • 7 Years Labor & 1 Year Parts Warranty!

either a 2MB or 4MB configuration. Four megabytes will allow you to display double-buffered flicker-free animations.

The Retina fits in any Zorro II/III slot and does not require use of the video slot. This means that you can use it in conjunction with video cards like the Video Toaster and OpalVision. Installation is simple and pretty much a plug-and-go endeavor. The video connector is a standard 15-pin VGA configuration. The hardware requirements are 1MB of chip RAM, at least 2MB of fast RAM, and a hard drive.

SOFTWARE

Operating Retina requires two main software programs.

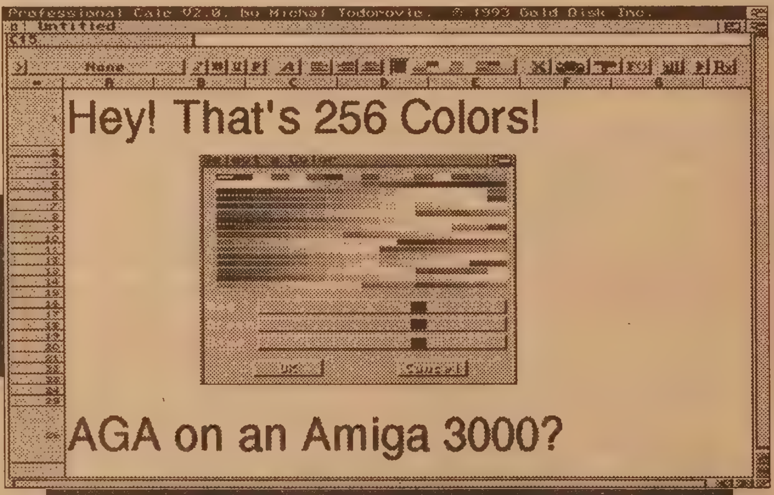
First, you need to run RetinaScreenMode. This allows you to identify the monitor connected to the Retina. A scrollable list of monitors appears on the left side of the program window. If you're lucky, your monitor will appear in the list. If it isn't there, you can select a monitor in the list whose horizontal and vertical scanning frequencies are as close as possible to yours. Alternatively, you can click in the frequency gadgets and type in your own values. Based on your monitor's capabilities, the right side of the program window lists the possible resolutions for 8-bit, 16-bit, and 24-bit display modes.

There are two types of display modes listed: groups and individual. Picking an individual display mode from the long list can be confusing. This is where groups come in to play. If a group is selected, the software assumes that a user wants the maximum possible vertical frequency for a given resolution and automatically picks the display mode. Although some of the screen modes are interlaced, the vertical frequency is usually high enough that the display will still appear solid.

The RetinaEmu program is the heart of Retina. This program keeps a dynamic list of all screens opened. Most programs open their own screen, unless they open a window on an existing screen (e.g., some programs open right on the Workbench). Many programs, like Art Department Professional, open more than one screen. RetinaEmu identifies screens by their public name, their screen name, and their program name. Except for public screens, which are a recent AmigaDOS innovation, identifying screen names is not an exact science. However, this three-way approach should cover just about any circumstance.

Retina needs to know what display mode should be used for every screen in the list. The Default entry in the screen list provides the settings for new screens that are not already defined in the list. Choosing a group screen mode for the default works best. If the default setting is not acceptable, you just open up the RetinaEmu window and specifically set the desired display mode.

Due to an oversight, standard Amiga resolutions were not included in the display mode list. This only creates a minor annoyance, however. For example a 640 x 400 screen shown on a 724 x 482 display will not fill the entire display. Functionally, it is fine; it just looks a little weird. Using a provided utility, you can manually create these resolutions and make them available for use. Alternatively, you could play with your monitor's display size controls. You may end up adjusting these controls anyway, depending on how your monitor reacts to the changing display frequencies used by the different display modes.


Professional Calc V2.0, by Michal Todorovic, © 1993 Gold Disk Inc.

Untitled

Hey! That's 256 Colors!

AGA on an Amiga 3000?

A PERFECT WORLD?

Of course it's not perfect (you knew this was coming, right?). Some programs use "illegal" display routines. Often these can be made to run by using the refresh option for the screen. This option will read the settings from the Amiga's graphic chips and transfer them to the Retina. This can be done at various selectable intervals. Ideally, if refresh was necessary, you'd want it done often; however, it should be noted that this will take more CPU time.

Other programs work directly with the Amiga graphics chips. If this is the case, these screens probably cannot be emulated on the Retina screen. However, there is a provision that allows screens to be sent to the Amiga video out instead of the Retina. Obviously, this will require either using a separate monitor or a switch box.

Programs like ImageFX from GVP use multiple-overlapping screens. Since Retina does not support overlapping screens, programs that do this will not work properly. I've been told that GVP is considering making a version that uses windows on a single screen in place of the multiple screens. ImageFX works fine, however, if the Workbench screen option is used.

WORKBENCH

Workbench can also be run in high resolution. Once you've set the Retina display mode you want, the only trick is that you need to run the Amiga Screenmode preference utility. The actual Amiga screen mode is essentially ignored—only the screen width and height are important. Click the default checkmarks off and change the width and height to match the Retina resolution. You must also turn on the auto-scrolling option. After you exit Screenmode, the Workbench will resize to the Retina resolution.

What benefit does a large Workbench screen give you? Basically, more elbow room, just as going from a non-interlaced 640 x 200 Workbench to an interlaced 640 x 400 Workbench gives you more space to open drawers and windows. For example, an 800 x 600 Workbench will give you nearly twice as much space as a 640 x 400 resolution. It is important to note that the entire 800 x 600 screen appears on your monitor. You do not have to scroll around.

RESOURCES:

Retina, $599 2MB
$699 4MB
$999 with TV
Paint Professional

MacroSystem US
17019 Smugglers
Cove
Mt. Clemens, MI
48038
(313)263-0095

Now View Photographs On Your Computer or TV

Kodak Photo CD Transfer Service

Now in San Francisco!

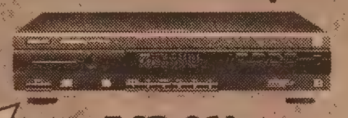
Kodak
Photo CD
Kodak
Gold
disc
Photographic Quality Images

If you ever had to scan photos for use in your documents, presentations or animations, you'll love Kodak's Photo CD. You get the quality and resolution you'd get from a professional scanner costing thousands of dollars! Have your 35mm negatives or slides transferred into a Photo CD—each CD stores up to 100 images. Use the CD with your CD ROM drive on your computer to work with high-quality images in your favorite photo editing program in applications as varied as Re-Touching, Composition, Color Pre-Press or Ad Layout. It's easy to find the pictures you want, because we include an index print of each picture on the Photo CD Disc.

Photo CD provides a compact and cost-effective means of storing photographic-resolution digitized images. It also eliminates albums, shoe boxes and projectors, and makes the process of cataloging, organizing and watching hundreds of pictures as easy as watching TV.

Also, ask about our Photo CD players which include remote controls with advanced imaging handling capabilities like panning, autoplay and custom sequencing.

Photo CD Player



60% Off

PCD 850

SAVE $300 on a KODAK Photo CD PLAYER

(Don't forget it plays your audio CD's too!)

Kodak Suggested List	$499
ITC CD discount	100
Less $50 rebate	50
Less $50 trade in	50
Less $100 in transfers	100
Cost after rebates	$199

Call for Details! • Offer expires 9/30/93 • (Limited to stock on hand)

35mm Color negative film develop, print and transfer to CD (price includes Photo CD Image Directory, CD and case)

Developing	$2.50 Roll
3 x 5 Glossy Prints	$ .30 Each
4 x 6 Glossy Prints	$ .38 Each
Image Transfer	$ .89 Each

35mm Negative or slide image transfer to CD (Previously processed)

12-24 Images	$1.79 Each
25-49 Images	$1.69 Each
50-74 Images	$1.59 Each
75 or more Images	$1.49 Each

(minimum 12 images)

Your Pictures Have Never Been So Powerful!

ITS•CD
IMAGE TRANSFER SYSTEM

1588 Noriega St. at 23rd Ave.
San Francisco, CA 94122

Telephone: 415•664•1588
Fax: 415•731•3252

INTRODUCTORY OFFER
$10
Off on your first Photo CD Transfer

Minimum $20 order.
First time customers only.
Present coupon at time of order.

Not to be combined with any other offers.
Expires 12/31/93

BAR CODE IS OUR SPECIALTY

INPUT AUTOMATION, INC.

The single source for all your bar code system needs: hardware, software, consulting and system design. Our philosophy is based on two principles: high-quality industrial products, and the best technical support available.

DESIGN AND CONSULTING

To create your optimal solution, an Input Automation consultant will design a complete system, and then recommend equipment that fills your exact needs.

We will not be satisfied until our bar code system meets your demanding standards.

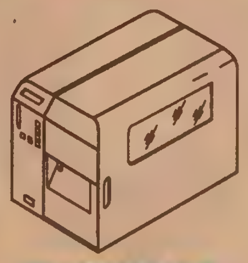
Call today for free info & product information

(Dealer inquiries welcome)

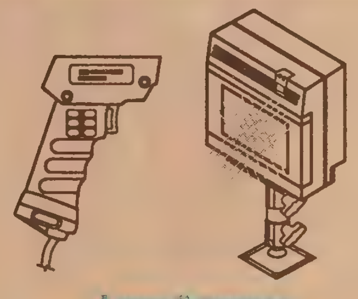
Call for an appointment to see our Showroom

Southern California
Tel: (310) 539-3598
Fax: (310) 530-2849
Tel: (714) 374-4511

Northern California
Tel: (510) 685-6563
Fax: (510) 685-2513

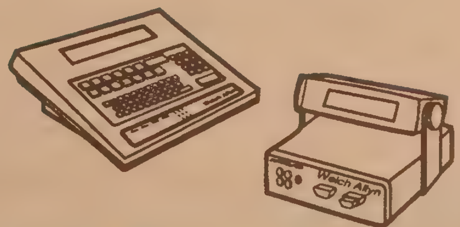


Bar Code Label Printers, Software, and Supplies



Laser Scanners. Omnidirectional, hand-held/hands-free, fixed mount.

Panasonic Portables. Recognized the world over for quality



Welch Allyn bar code readers/scanners. Over 15 years leadership in bar code manufacturing.

INPUT automation, inc.
Authorized Value-Added Distributor

©1992 Copyright Input Automation, Inc. All rights reserved. All product names mentioned are trademarks of their respective manufacturers. Input Automation, Inc. recognizes these trademarks.

Whether your office has one computer or one hundred....

We keep you working

AUTHORIZED TECHNICAL SERVICES has the experience *and* the expertise to handle your equipment service needs. Whether you're running one small office with one micro computer, or a statewide network of offices with a complex inventory of computers, video display terminals, printers and data communications devices—you simply cannot afford "down time". Call **ATS** today to find out just how easy it is to stay productive

ATS
AUTHORIZED TECHNICAL SERVICES
1-800-451-4057

HERE'S A PARTIAL LIST OF EQUIPMENT WE SERVICE:
MICROCOMPUTERS: Dell, Epson, Advance Logic (ALR), AT&T, Everex, Leading Edge, AST Research, Compaq, IBM. **LOCAL AREA NETWORKS:** 3Com, Novell. **STORAGE DEVICES:** IOmega (Bernoulli). **DOT MATRIX PRINTERS:** Alps, Datasouth Epson, NEC, Panasonic, Citizen, Texas Instruments, C. Itoh, Digital Equipment (DEC), IBM, Okidata, Printek, Toshiba. **PLOTTERS:** Hewlett-Packard, IBM. **THERMAL PRINTERS:** IBM, Texas Instruments, Panasonic. **LINE PRINTERS:** Data Products, Printronix. **LETTER QUALITY PRINTERS:** C. Itoh, Diablo, NEC Spinwriters. **LASER PRINTERS:** Canon, Epson, IBM, AST, TI, Hewlett-Packard. **VIDEO DISPLAY TERMINALS:** Digital Equipment (DEC), Link, Qume, Tab, Televideo, Wyse. **DATA COMMUNICATIONS:** Hayes.

ATS SERVICE CENTERS:
Los Angeles (310) 839-0020
Orange County (714) 937-0332
Oakland (510) 638-4449
Sacramento (916) 923-2944
San Jose (408) 970-9860

MultiMedia & beyond

MORE COLORS, AGA EMULATION

hey said it couldn't be done—AGA could not be dded to pre-model 4000 Amigas. Wrong. RetinaEmu rovides a way to trick an application into thinking it s running on an AGA machine.

First you need to turn the global AA emulation etting on in RetinaEmu. (AA was the original name or AGA.) Now each screen can be individually set to rovide more colors. Say we wanted to run Vorkbench using 256 colors. First we select the Vorkbench entry in the screen list and set "more olors" on. Now when we run the Amiga Screen mode reference utility something magical happens. The creen mode descriptions now shows that it supports 56 colors and the slider gadget now goes all the way 256! Running a utility provided with the Retina, a mall palette window can be brought up that shows ll 256 colors on the Workbench. Some of the rograms I've also gotten the AGA emulation to work ith include Deluxe Paint IV AGA, Art Department rofessional v2.3, and Professional Calc.

Running any program in 256 colors slows things own considerably. Even on the Amiga 4000, due to MA contention, the new flicker-free double-NTSC isplay modes are not as fast as people expected. hat's why there's actually a need for an A4000 de-nterlacing card. A de-interlaced display would be uch faster than an equivalent double-NTSC.

The Retina does not suffer from DMA contention, nce it completely shuts down the Amiga display, nd no de-interlacing hardware is required either. erformance is totally CPU dependent. acroSystem tells me that the display of an Amiga 00 equipped with a fast '040 CPU will be faster an a 4000's. Even on an Amiga 4000, the Retina splay will outperform a comparable AGA display. I und that for programs that did not require the fresh option, the Retina display on my A3000 was uch snappier than the normal Amiga display. This ould hold true for any Amiga model.

DEVELOPER SUPPORT

ecause of the relatively low cost and high erformance of the Retina, many companies are arting to support it. A new version of TV Paint, also stributed by MacroSystem, a very powerful 24-bit int package, now directly supports the Retina. An coming version of VistaPro from Virtual Reality Labs ll also do so. An ImageFX render module is in the rks, as well as a special version of Black Belt's agemaster. Scala is also supposedly interested.

It is important to note that for a program to be mpatible with the Retina, the only general quirement is that it has to be written using standard niga function calls. As a result, the program will still erate without a Retina. This should make velopers very happy and encourage support for the ard.

Most of the programs I tried ran perfectly.

Efi's
DISCOUNT COMPUTERS

3Com® AST RESEARCH INC. EVEREX Canon SAMSUNG MITSUBISHI ELECTRONICS TOSHIBA intel ZENITH data systems Groupe Bull NEC I-MEGA Acer

JUST A SAMPLE

LOWEST PRICES ON ALL AST PRODUCTS GUARANTEED!

AST Notebook 486SL25 w/4MB, 200MB, Mono, Windows, Mouse $2389
AST Bravo 486/33, 4MB, 120MB Bundle w/Monitor 1595
AST Bravo Base 486/33, 2MB 1099
Chaplet 486/25SL, 120MB Notebook .. 1549
Colorado 250MB Trakker 399
Conner 120MB Hard Drive 199
Harvard Graphics 3.0 339
Okidata OL400 569
Cordless Mouse w/Windows 59
3 Com 3C509 129
96/24 Internal Modem 69
Local Bus SVGA Card w/1MB 129
Mitsubishi 17"/20" Monitor 689/1075
SVGA Non-Interlaced Monitor 299
Conner 250MB Internal Tape Back-Up w/Cartridge 189

Prices Reflect A Cash Discount Only

TWO User Network Starter Pack
FREE!!!
with purchase of Ethernet Card

altima OKIDATA IBM COMPAQ ALR ALPS AMERICA Panasonic EPSON® HEWLETT PACKARD Hayes® CITIZEN

Fax for inquiries, price bids & purchase orders: (510) 283-1744
Free delivery and installation of systems within 30 miles. Free in-store installation of any product.
VISA MasterCard DISCOVER
CALL US FOR YOUR PRICE ON ANY PRODUCT.
HOURS: MON-FRI. 10-6, SAT. 10-2
3441 GOLDEN GATE WAY, LAFAYETTE, CA 94549
(510) 283-1700
CALL BEFORE YOU BUY
We are actively seeking minority businesses suplying computer products. Please Call!
Prices may change without notice. 90 day warranty on all products.

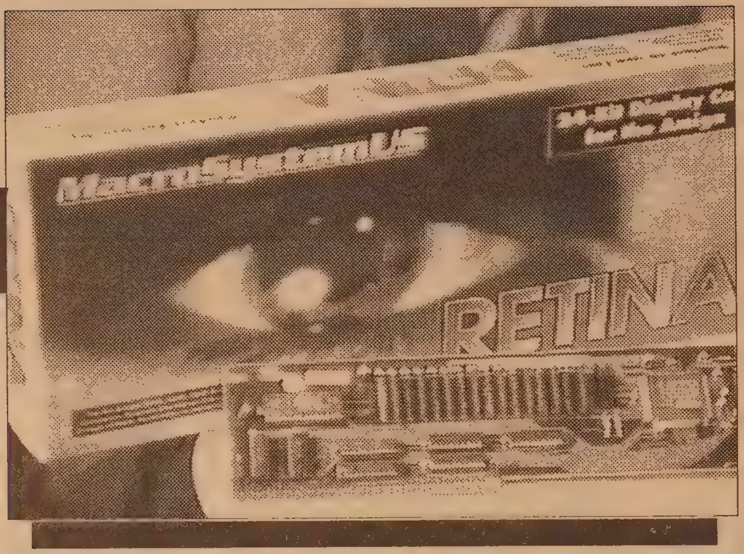
SPARC WORKSTATION
LOOK & COMPARE YOU'LL SEE WHY,
TODAY MORE USERS CHOOSE SUNAR WORKSTATIONS

SPARC II + 50MHz $2995

Introducing NEW SPARC 10 FAMILY
- SPARC II & II PLUS
- SBUS PERIPHERALS
- MEMORY
- CD-ROM, TAPE AND HARD DRIVES
- SCSI CABLES

And Much, Much More!

SUNAR CONTINUES TO OFFER THE BEST SPARC VALUES IN TODAY'S TECHNOLOGY
See Us At UNIX EXPO – New York Sept. 21-23 Booth #480
CALL NOW 800-22-SUNAR (U.S. & CANADA)
BUY NOW PAY LATER PLAN AVAILABLE
RESELLERS WELCOME
MasterCard VISA CORPORATE, GOV'T PO'S OK
E MAIL: SUNAR @ NETCOM. COM
SUNAR SYSTEMS
3350 SCOTT BLVD.
BLDG. 1901
SANTA CLARA, CA 95054
TEL.
(408) 982-0288
FAX
(408) 982-9369



Of course programs won't take full advantage of the Retina unless they write a special version for it. Developer information is included right on the program disk.

Provided with the Retina is an ADPro saver which will show any image on the Retina display. A driver for Black Belt System's Imagemaster is included as well. Applications written for the Harlequin graphics card by Amiga Centre Scotland can be used too. Retina also comes with a few utility programs, including a nice display program and 24-bit paint package.

FUTURE RELEASE

The next major software upgrade will feature a totally rewritten interface. There will also be support for virtual screens. With an 800 x 600 viewable display, you will be able to scroll around a 24-bit 1280 x 1024 image! The viewable display can be 1280 x 1024 with a whopping 2048 x 2048 256-color image!

This release will also have support for multiple 24-bit windows running on top of a four-color Workbench. The windows can be moved and resized even while showing animations. The incredible part is that Workbench will still operate at top speed because it is only using four colors!

The Retina integrates into the Amiga operating system nearly seamlessly and offers an affordable solution to getting a true 24-bit display on the Amiga. Though it operates fine on a 1960, this product just screams for a large high-resolution monitor. The Retina provides faster screen updates, higher resolutions, and more colors for all slot-equipped Amigas including the 4000. It is only the odd program here and there that may still necessitate a two-monitor setup. Because it is compatible with most existing software, it could become the 24-bit standard for the Amiga.

(A special thanks to Martin and Vince at TS Computers in North Hollywood for repairing my Amiga 3000, allowing me to meet my deadline.)■

Confused About Desktop Video?

OZ

Do you have questions about:
What is an A/B roll system? • Are my present VCR's usable for video editing? • What is the best format for me for video editing? • What is available for single frame animation? • Is the Video Toaster the system for me? • I have a Mac computer, what is my best solution? • Where can I get training on desktop video? • What is the best character generator? • I have an MS-DOS computer, what is the best solution? • How do I do animations? • Can I see the equipment in operation?

Plan on attending our free weekly seminars. Attend one or all of the following seminars to make an informed selection for the best solution for your business:

FAST

MATROX STUDIO

AMILINK

Seminar Schedule
Aug 20: Newtek Video Toaster with RGB Amilink - Amiga all-in-one broadcast video production suite
Aug 27: Fast Video Machine for the Mcintosh - A/B-Roll, DVEs, Audio Mixer, Video Switcher & more
Sept 3: Matrox Personal Producer - Low Cost high performance video editing on your PC
Sept 10: Videomedia OZ - A/B-Roll editing for either PC or Mac or to control the Video Toaster..
Sept 17: Matrox Studio - A/B/C-Roll editing with 24-bit graphics and high performance digital audio.
All seminars begin at 10:00 AM. Please call to reserve space. Demos available anytime by appointment.

Authorized Reseller for:
Newtek Video Toaster
Matrox Studio
Fast Video Machine for the PC
Videomedia OZ
Matrox Personal Producer
Fast Video Machine for the MAC
Commodore Amiga
RGB Amilink
Inscriber Character Generator
SoftVTR Single Frame Controller

HT ELECTRONICS
computer systems

275 N. Mathilda Ave., Sunnyvale, CA 94086
Store Hours: 9:30-6 M-F • 9-5 Sat • Closed Sunday

**Video Toaster 4000
Personal Animation Recorder
On Display**

(408)737-0900
fax (408)245-3109

Multi Media & beyond

> **Brett Leonard:** "We're looking at something that includes the group mind, includes a group experience. Like when you go to a concert—a Peter Gabriel concert—you have this tremendous feeling of being connected with a group of people. That's what virtual reality should be about."

Future Zone At The WOMAD Festival

Multimedia At The Polo Fields

BY JONATHAN E.

The WOMAD Festival comes to the Polo Fields in Golden Gate Park, San Francisco, on September 19 from 11 am to 5 pm. While most aspects of this multicultural music and dance event are more suited for coverage in my One World Beat column in *BAM*, the "Future Zone—A Virtual Village," featuring examples of interactive multimedia and digital art, should be of interest to readers of this column.

Brett Leonard is the coordinator of Future Zone, while Peter Gabriel is an original cofounder of A World Of Music, Arts And Dance, the WOMAD organization. I was impressed by what both said about interactive multimedia and new technology at the press conference announcing the Festival. Gabriel believes that in the future these developments offer strong potential for the empowerment of people, whatever they may appear to do now. At the conference, he explained, "I think that the first generation of technology can dehumanize and then the second generation can superhumanize. Empowerment is part of what WOMAD is about."

Leonard vigorously expressed several themes I've heard repeatedly from many individuals over the past few months about the nature of interactivity and its relationship with our present media culture. He said he wanted to push interactive technology "to be something that does empower people, as opposed to something that's very intimidating, where you feel like you have to stand off from it and look in instead of being involved. In the context of the WOMAD Festival with all its multicultural influence and music and dance, I've always felt that that's exactly the kind of energy that needs to be imbued into what we're all calling multimedia interactive technology, because right now the definition of what that actually is doesn't really exist. Everyone's trying to form what that

Copyright © 1993 by Jonathan E. All rights reserved. Johnathan E. has worked with desktop multmedia since 1988.He also writes about world music and the Archaic Revival for BAM. His USPS mailing address is c/o SoundSwell, 54 29th St., Richmond, CA 94804. His email address is jeve@well.sf.ca.us is. So right now we have a tremendous opportunity to start to create what that paradigm is and it can be something that's negative—it can also be something that's positive.

"We're looking at using stuff that exists right now to help empower people with multimedia technology, to bring them into the creative loop, to make them understand that interactive technology is not about sitting back and having an experience of someone giving you media, as it has been to this point. We're going to try to break down the passive audience relationship with media by bringing them into the fold of the creative process."

Peter Gabriel: "I think that the first generation of technology can dehumanize, and then the second generation can superhumanize."

Leonard injected a note of urgency when he said, "We need to really push what interactive technology is, before this five hundred channel universe slams down around our ears in a way that may not be necessarily positive. Linking it with something where all this amazing drumming-music-dance energy is going on, and having it be fun and empowering, I think, is a tremendously exciting idea. It's the kind of 'mergence' that needs to take place for technology. We need to get out of the kind of trade show-virtual reality-conference-symposium venue and put it into something that has a little more life and focus to it."

Plans of what will actually be in the FutureZone are still being firmed up, but Leonard said that "a lot of different corporations and sponsors want to get involved." He promised "a digital art gallery utilizing artistry from traditional sources that have then combined with the new digital tools to make something that's new and very special." He's also working on "having a multimedia public-library school zone."

Besides those attractions, he announced that, "Obviously, we're going to have some type of virtual-reality technology there, although I think that the traditional goggles-and-gloves-in-your-own-little-world type of virtual reality really isn't the focus of what we're looking at.

"We're looking at something that includes the group mind, includes a group experience like when you go to a concert—a Peter Gabriel concert—you have this tremendous feeling of being connected with a group of people. That's what virtual reality should be about, so we're pushing to have it be focused on that kind of area. There'll be 3-D video experiences to be had. We're looking at interactive CD and video kiosks."

THE SWARMCAM BLENDO STATION

The Reality Lab of Santa Cruz's Digital Media Studios will also be there with the SwarmCam Blendo Station. Leonard explained this feature and expanded upon his theme of what multimedia means and how it can encourage audience participation.

"A SwarmCam is giving people camcorders and getting them into the creative loop with multimedia process. They take those tapes to the Blendo Station. The Blendo Station is a real-time visual-music-creation kind of zone that allows you to instantly put your hands on and create multimedia, as opposed to waiting for the new box that's going to come along that's going to tell us what multimedia is. I think we need to start working with the process, with the tools that exist right now. [People] could be empowered with media creation and get into a much more interactive flow with the media."

I later called Dan Mapes of The Reality Lab, and he told me that there would be at least five camcorders available for audience use and that the other hardware used would consist of Mac Quadras, Video Toasters, and various video synthesizers and effects boxes. An image bank of symbolic imagery on hard disk will be used, while most of the software is custom programming. He said that the goal is to capture the collective gestalt of the event in a way that is not linear, but closer to the way the human mind actually functions with layers of meaning, or the way a conversation happens with subtle mental associations directing the flow.

Although tapes of the event will be produced, Mapes stressed that, "We're not into the boring classics of multimedia—we're into live arty stuff." Currently The Reality Lab's SwarmCam Blendo Station is working on Billy Idol's world tour. To contact The Reality Lab, call (408) 476-2674 or email to dmedia@aol.com.

CAUTIONARY TALES

Leonard concluded his statement at the press conference by saying, "It's very exciting to me because I'm a feature film director [he directed *Lawnmower Man*], and one of my main focuses is creating cautionary tales about misusing technology. To have something that's a positive focus, to have it be something that is imbued with this wonderful dance and music energy, I think is the other side of the coin. Without that, I think we're sunk. So this WOMAD tour to me represents a couple of baby steps towards trying to create a very positive paradigm around interactive media."

At a time when mainstream communication channels are pitching home shopping as the prime product of interactive technology, Leonard's emphasis on what digital media may do for creativity rather than for consumption is refreshing.

BOOK LEARNING

The fact of the matter is that it takes a certain amount of skill and background to produce anything worthwhile in any medium. Books can help neophytes grasp basic concepts and terminology, although I would caution against expecting to learn in-depth techniques or skills from the printed page. The following books all offer insights into the world of multimedia. Note that they are generally oriented to producing

continued on page 304

Americal Group's Nationwide - Warehouse

SIZZLIN' SUMMER SUPPLY SALE!

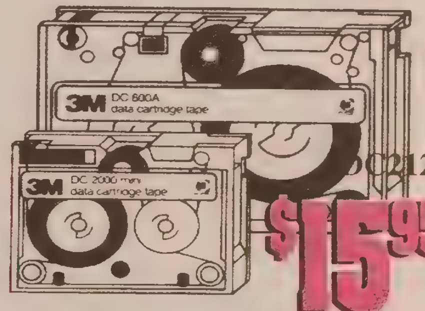
ave Time!
Each Disk 100%
Tested & Formatted!

55¢
QTY 1000

41¢
QTY 1000
720 KB DD Formatted

1.44MB HD Formatted

Backup Tapes


3M DC 600A data cartridge tape
3M DC 2000 mini data cartridge tape

DC2120 **$15.95**

SyQuest Cartridge

44MB	88MB
$66.95 Qty 10+ $ 69.95 each 3-9 Pcs $72.95 ea	**$98.95** Qty 10+ $ 104.95 3-9 Pcs $109.95 ea

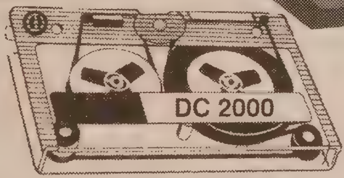
Shipping: $1.50 each

Order #	Description	500	100	50	25
CHD3F	PreFormatted 3.5"DSHD	59¢	65¢	69¢	69¢
MX2HD*	High Quality 3.5"DSHD	59¢	65¢	69¢	69¢
CDD3F	PreFormatted 3.5"DSDD	43¢	45¢	49¢	N/A
MX2DD*	High Quality 3.5"DSDD	43¢	45¢	49¢	N/A
CDD5*	High Quality 5.25"DSDD	21¢	23¢	26¢	N/A
CHD5*	High Quality 5.25"DSHD	31¢	34¢	N/A	
CDD5F	PreFormatted 5.25"DSDD	31¢	33¢	36¢	N/A
CHD5F	PreFormatted 5.25"DSHD	42¢	43¢	46¢	N/A

*These Diskettes are ideal for software duplicators and Macintosh Owners. Each Premium disk is 100% tested and verified to be ERROR FREE.

3.5"Shipping charges: 60¢ per 25 pcs. / .5.25" Shipping charges: 60¢ per 50 pcs Call for larger qty

3M



Order #	Description	Length	Capacity	1-4	5-29
12200	DC2000	205'	20-40MB	$ 14.99	$ 13.49
12941	**DC2120**	**307.5'**	**120 or 250 MB**	**17.37**	**16.95**
33047	DC300XLP	450'	45MB	19.32	17.36
00310	DC600A	620'	60MB	19.80	19.10
12802	DC6150	620'	150MB	20.90	19.90
12937	DC6250	1020'	250MB	26.30	25.39
12943	DC6320	620'	320MB	29.98	27.98
12937	DC6525	1020'	525	34.89	32.68
43097	Magnus 1.2 (1)	950'	1.2GB	37.49	35.34
42904	Magnus 2.0 (3)	950'	2.0GB	39.99	37.89
40756	DC2060 Thetamat*	307.5'	60 or 120MB	24.84	22.32
40194	**DC2120 Ximat****	**307.5**	**250MB**	**22.69**	**20.39**

** Qic 40 Format **Qic 80 Format* Shipping - 60¢ ea

Premium quality Bulk Data

rder #	Width	Description	Length	Capacity	1-4	5-29
M600A	¼"	DC600A	620'	60MB	15.98	14.98
NM6150	¼"	DC6150	620'	150MB	16.98	15.98
M2000	¼"	DC2000	205'	20-40MB	12.89	11.99
M2120	**¼"**	**DC2120**	**307.5'**	**120 or 250 MB**	**15.29**	**14.59**
M2120X FMTD		**DC2120X**	**307.5'**	**120 or 250 MB**	**18.29**	**17.59**

4mm DAT & 8mm Data Tapes

Description	SONY	3M	Maxell
4mm DAT Tape (60m,1.3GB)	$15.25	$14.95	$13.25
4mm DAT Tape (90m, 2.0GB)	17.19	16.95	15.95
8mm Data Tape(112m, 2.3GB)	13.59	12.95	11.95

Shipping - 40¢ ea

Geniune HP Laser Toner Cartridges

HP 92298A	$109.95
HP 92295A	75.95
HP 92291A	119.95
HP 92285A	79.95
HP 92275A	68.95
HP 51608A Deskjet	$17.59
HP 51626A High Cap	26.95
HP 51606A Paintjet	17.95
Canon BC-01 Stylewrite	19.95
Refills	$9.95 &Up

AMERICAL GROUP

800-288-8025

SAME-DAY SHIPPING!

Southern California Orders: 818-765-3040
FAX ORDER line: 818-765-3887

Computer Products, Inc.
PO Box 16388,
North Hollywood, CA 91605
12132 Sherman Way,
North Hollywood, CA 91605

**ORDERS RECEIVED BY 2 PM SHIPPED SAME DAY!* •No extra charges for Visa/MC,Discover & Amex. •Add $5 if COD. Add $3.50 to all shipments for Handling & Packing. • Calif. residents add 8.25% tax. FAX ORDERS accepted, 818-765-3887. • PO's accepted from Colleges & Schools, Fortune 1000 Co.'s, Federal & State Gov't. Agencies - Call first! Prices apply to 48-cont. states only - call for other areas' charges. Prices subject to change without notice.

Call the Quality Leader

Lifetime Labor & 1 Year Parts Warranty

We Use The Finest "Made in the USA" Motherboards

FREE
2-Hour Software
Installation
on all systems.
FREE labor on upgrades
on all of our systems
for 5 years.

Micronics VESA Local Bus System

8MB RAM/ 200MB Local Bus System

MICRONICS
Computer, Inc.

- Micronics VESA Local Bus 486 Motherboard
- Socket for Intel's overdrive chip
- 8MB RAM (Exapandable to 64MB on board)
- VESA Local Bus 2FD/2HD IDE Controller Card
- 213MB Maxtor 15ms IDE Hard Drive
- Diamond Stealth/24 or Orchid 1280/plus VESA Local Bus w/1MB
- Viewsonic 6e Non-Interlaced Monitor 14"
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- 2 Serial/1Parallel I/O Ports
- Maxiswitch or Focus 101-key Keyboard
- GT-300 Deluxe Full Tower w/Dual Fan & 300W P.S.
- DOS 6.0 w/Manuals
- Windows 3.1 w/Manuals
- Logitech Dexxa Mouse

EISA/VESA Motherboard ADD $250

486DX2-66/256K	$2490
486DX-33/256K	$2290
486SX-25/256K	$2090

UPGRADE	Ultrastor 34F VLB SCSI+HD	DTC 3270VL VLB SCSI+HD	ATI Ultra VLB/1MB	ATI Ultra VLB/2MB	Viper or P9000/2MB
ADD	$250	$100	$135	$170	$170
UPGRADE	Maxtor 340MB	Fujitsu 520MB	Viewsonic 15" 15"	Viewsonic 15" 15"	Viewsonic 17" 17"
ADD	$80	$390	$200	$750	$1400

Paradine 486 VESA Local Bus Systems

- Intel 486 CPU
- Zif Socket For Pentium Upgrade
- 128K Cache (Expandable to 256K)
- 4MB RAM 70ns (expandable to 32MB)
- 32-Bit VESA LB 2FD/2HD IDE Controller Card
- 213MB Maxtor IDE Hard Drive
- Viewsonic 6E Non-Interlaced SVGA .28 NI Monitor
- Orchid F1280/plus/VLB or Diamond Stealth Pro VLB SVGA Card w/1MB
- Teac 1.2MB & 1.44MB Floppies
- 2 Serial, 1 Parallel, 1 Game I/O Ports
- Focus or Maxiswitch 101-Key Keyboard
- Mid Tower Desk Top Case w/250W Power Supply
- Logitech Dexxa Mouse

486SX-25	486DX-33	486DX-50	486DX2-66
$1395	$1615	$1755	$1820

Nice VESA Local Bus System

8MB RAM/ 200MB Local Bus System

NICE
Made in USA

- NICE VESA Local Bus 486 Motherboard
- 8MB RAM (Exapandable to 32MB on board)
- VESA Local Bus 2FD/2HD IDE Controller Card
- 213MB Maxtor 15ms IDE Hard Drive
- Diamond Stealth/24 or Orchid 1280/plus VESA Local Bus w/1MB
- Viewsonic 6e Non-Interlaced Monitor 14"
- Teac 1.2MB 5.25" Floppy Drive
- Teac 1.44MB 3.5" Floppy Drive
- 2 Serial/1Parallel I/O Ports
- Maxiswitch or Focus 101-key Keyboard
- GT-300 Deluxe Full Tower w/Dual Fan & 300W P.S.
- DOS 6.0 w/Manuals
- Windows 3.1 w/Manuals
- Logitech Dexxa Mouse

MINI-EISA/VESA Motherboard ADD $100

486DX2-66/256K	$2275
486DX-50/256K	$2210
486DX-33/256K	$2075

UPGRADE	Ultrastor 34F VLB SCSI+HD	DTC 3270VL VLB SCSI+HD	ATI Ultra VLB/1MB	ATI Ultra VLB/2MB	Viper or P9000/2MB
ADD	$250	$100	$135	$170	$170
UPGRADE	Maxtor 340MB	Fujitsu 520MB	Viewsonic 15" 15"	Viewsonic 15" 15"	Viewsonic 17" 17"
ADD	$80	$390	$200	$750	$1400

Paradine 486 ISA Systems

- Intel 486 CPU
- Zif Socket For Pentium Upgrade
- 128K Cache (Expandable to 256K)
- 4MB RAM 70ns (expandable to 32MB)
- 2FD/2HD IDE Controller Card
- 130MB Maxtor IDE Hard Drive
- Viewsonic 6E Non-Interlaced SVGA .28 NI Monitor
- Standard Technology Windows Accelerated 16.7M Color SVGA Card w/1MB
- Teac 1.2 MB &1.44 MB Floppies
- 2 Serial, 1 Parallel, 1 Game I/O Ports
- Focus or Maxiswitch 101-Key Keyboard
- Mid Tower Desk Top Case w/250W Power Supply
- Logitech Dexxa Mouse

486SX-25	486DX-33	486DX-50	486DX2-66
$1240	$1450	$1595	$1660

altima Notebooks

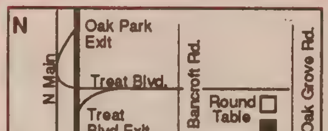
Altima SLC 33 $1,499
- 486SLC-33
- 2MB Ram (Up to 6MB)
- 120MB Hard Drive
- 10" LCD Mono Display

Altima 466 $3,095
- 486DX2 66MHz, 8K Cache
- 4MB Ram (Up to 20MB)
- 200MB Hard Drive
- 10" LCD Mono Display

Altima 466C $4,895
- 486DX2 66MHz, 8K Cache
- 4MB Ram (Up to 20MB)
- 200MB Hard Drive
- 9" Backlit Active Matrix Screen

Altima 433 $2,295
- 486DX 33MHz, 8K Cache
- 4MB Ram (Up to 20MB)
- 200MB Hard Drive
- 10" Backlit LCD Display

Altima 433C $3,995
- 486DX 33MHz, 8K Cache
- 4MB Ram (Up to 20MB)
- 200MB Hard Drive
- 9" Backlit Active Matrix Screen



Note South Bound 680 Customers:
Exit Oak Park left on N Main,
left onto Treat Blvd 3 Miles from 680

PCS
PARADINE

PARADINE
COMPUTER SYSTEMS

Oak Grove Plaza Annex • 2958 Treat Blvd., Suite A • Concord, CA 94518

Hours:
Mon-Fri 9:30-7:00
Sat 10:00-5:00

No Surcharge
VISA MasterCard

Call the Quality Leader
(510) 825-6068
Fax: (510) 825-5940
BBS: (510) 825-0997
Leasing/Financing Available.
Prices subject to change without notice.
Not responsible for typographical errors.

Paradine Peripherals

Excellent Pricing with The Best Service

HARD DRIVES

Maxtor

130MB 7120AT 15ms 3.5" IDE	$195
130MB 7120S 15ms 3.5" SCSI	$205
213MB 7213AT 15ms 3.5" IDE	$249
213MB 7213S 15ms 3.5" SCSI	$259
245MB 7245AT 15ms 3.5" IDE	$279
245MB 7245S 15ms 3.5" SCSI	$279
340MB 7345AT 15ms 3.5" IDE	$319
340MB 7345S 15ms 3.5" SCSI	$379
1.2GB MXT-1240 8.5ms 3.5" SCSI-2	$1,155
1.7GB P1-17S 13ms 5.25 SCSI-2	$1,295

FUJITSU

520MB M2624T 12ms 3.5" IDE	$649
520MB M2624A 11ms 3.5" SCSI-2	$649

5 year warranty

CONNER

212MB CP30204 12ms 3.5" IDE	$235
212MB CP30200 12ms 3.5" SCSI	$295
540MB CP30544 10ms 3.5" IDE	$765
540MB CP30540 10ms 3.5" SCSI	$765

Quantum

240MB LPS240AT 3.5" IDE	$269
240MB LPS240S 3.5" SCSI	$275
525MB LPS525AT 3.5" IDE	$659
525MB LPS525S 3.5" SCSI	$659
700MB PD700S 3.5" SCSI-2	$839
1.0GB PD1050S 3.5" SCSI-2	$989
1.2GB PD1225S 3.5" SCSI-2	$1,115

TOSHIBA

877MB MK438FB 12ms 3.5" SCSI	$959
1.2GB MK438FB 12ms 3.5" SCSI	$1,155

WESTERN DIGITAL

250MB WD2250 14ms 3.5" IDE	$289
340MB WD2340 12ms 3.5" IDE	$325
420MB WD2420 12ms 3.5" IDE	$455

3 year warranty

MICROPOLIS

1.2GB MC2112A 10ms 3.5" IDE	$995
1.2GB MC2112 10ms 3.5" SCSI	$995

MULTI-MEDIA

CD-ROM DRIVES

Panasonic CR-523-B	195
Toshiba XMS3401BTA 200ms 330KB/Sec SCSI	$455
NEC CDR-84 285ms 300KB/Sec SCSI	$495
Texel 3024 265ms 300KB/Sec SCSI	$369
Mitsumi 380ms 150KB/Sec AT-BUS	$195

SOUND CARDS

Sound Blaster Pro Deluxe	$125
Sound Blaster Pro 16 Deluxe	$229
Pro Audio Spectrum 16	$145
Pro Audio Studio	209

MULTI MEDIA KITS

Many CD-ROM & Sound Card Multi Media Bundles to Choose from! Plus a wide selection of CD-ROM Software! Call for Up to Date pricing and information!

Miscellaneous

SCSI CONTROLLER CARDS

Adaptec 1542C 16-Bit ISA	$259
Ultrastor 14F 16-Bit ISA	$239
Ultrastor 24F 32-Bit EISA	$399
Ultrastor 34F 32-Bit VESA LB	$269
Bus Logic 32-Bit VESA Local Bus	$289
Promise Technology DC-2040 16-Bit ISA Caching	$269

TAPE BACK-UP

120MB Colorado DJ10	$215
250MB Colorado DJ20	$215
250MB Summit SE-250	$215
250MB Irwin A250	$215
250MB Archive 2150L	$419
250MB Archive XL 9250i	$175

SyQuest REMOVABLE STORAGE

44MB SQ555 Internal 20ms SCSI	$265
88MB SQ5110 Internal 20ms SCSI	$315
88/44MB SQ5110C Internal 20ms SCSI	$399
105MB SQ3105S Internal 20ms SCSI	$565
105MB SQ3105A Internal 20ms IDE	$545

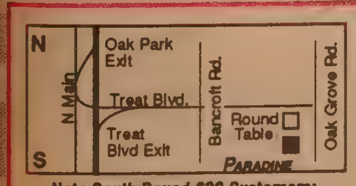
MODEMS

US Robotics Sportster 14400/14400 Modem w/Group III Fax

Internal:	$179
External:	$189
Zoltrix 9600/2400 Send Fax Int Modem	$49
Zoltrix 9600/2400 Send/Receive Int Modem	$65
Zoltrix 14400/14400 Fax/Modem Internal	$155

MONITORS

Viewsonic 6e – 14" 1024X768 .28 Dot Pitch, Non-interlaced	$319
Viewsonic 15 – 15" 1280x1024 .28 Dot Pitch, Non-Interlaced	$525
Viewsonic 17 – 17" 1600x1280 .28 Dot Pitch, Non-Interlaced	$1,129
Viewsonic 20 – 20" 1600x1280 .28 Dot Pitch, Non-Interlaced	$1,815



Note South Bound 680 Customers:
Exit Oak Park left on N Main,
left onto Treat Blvd 3 Miles from 680

PARADINE

PARADINE
COMPUTER SYSTEMS

Oak Grove Plaza Annex • 2958 Treat Blvd., Suite A • Concord, CA 94518

Hours:
Mon-Fri 9:30-7:00
Sat 10:00-5:00
No Surcharge

Call the Quality Leader
(510) 825-6068
Fax: (510) 825-5940
BBS: (510) 825-0997
Leasing/Financing Available.
Prices subject to change without notice.
Not responsible for typographical errors.

continued from page 300

"canned" titles rather than on-the-fly live work.

Demystifying Multimedia is an excellent guide to both the conceptual and practical aspects of multimedia. Although published by Apple, it is sufficiently general to be of some use to any but the most experienced producers, whatever platform they may be developing on or for. For beginners, it presents a clear view of how multimedia projects come together and the many different skill areas that come into play. This is done by linear explanation of such things as categories of multimedia, financing, prototyping, production, and manufacturing, combined with sidebar interviews with developers and case studies of projects. In addition, in the margins of almost every page are quotes from a wide range of individuals (not necessarily in the multimedia field, but with relevance to the creative process) and useful definitions, tidbits of information, and hints for how to do things. The synergistic effect is powerful and mimics the result of successful multimedia.

Demystifying Multimedia does not go as deep into the details of type, bitmapping, color palettes, audio, or video as either Multimedia—*Making It Work* or *The Desktop Multimedia Bible*. However, there is enough information on these topics for beginners to sense the technical issues. On the other hand, *Demystifying Multimedia* pays considerably more attention to questions of design and content, and the actual process of production, including a substantial section on testing. It also includes some recognition of the international cultural aspects of multimedia, with examples of how not to be offensive towards other cultures and how to be effective in dealing with them.

All is not perfect, however. There are far too many typos—there are even lost letters at the ends of lines on the page facing the paragraph dealing with proofreading! Some indexing is off by a couple of pages and is also irritatingly incomplete. Even so, if I could get only one of these books, *Demystifying Multimedia* would be the one.

Demystifying Multimedia is available only by mail. The postpaid price is $29.95 ($25 for students and educational institutions) from Vivid Publishing, 220 Sansome St., 5th Floor, San Francisco, CA 94104; (415) 512-7200. The book is also part of the package if you become a member of the Apple Multimedia Program.

Multimedia—Making It Work by Tay Vaughan (Osborne/McGraw-Hill, $27.95) and The Desktop Multimedia Bible by Jeff Burger (Addison-Wesley, $32.95) both take a much closer look at the gritty details of the various media that go into multimedia. *The Desktop Multimedia Bible* also covers "Fundamental Principles of Electronic Media" and computer basics in some detail, and pays more attention to the hardware, including a comparison of different platforms from technical and market-penetration viewpoints.

Its approach tends to be theoretical—it is mostly conceptual and talks of principles, rather than actual examples. Once past the platform comparison, there is barely a brand name mentioned in the text. There is no glossary and the index could be improved. However, there are beefy appendices of further reading, professional organizations, and product listings.

Multimedia—Making It Work deals more with software and process, although there is discussion of hardware, particularly of peripheral equipment. There are descriptions of many software packages along with lots of screen shots and some short code examples. The book even comes with software, a disk of TEMPRA for IBM PC or compatible Intel 80286 machines. Advice on design and navigation is more explicit than in *The Desktop Multimedia Bible*. Again, there is no glossary.

One feature present in *Multimedia—Making It Work* that is entirely absent in *The Desktop Multimedia Bible* is a series of "First Person" anecdotes. These are individually uncredited, which is frustrating because they are so varied that it's hard to believe that they are all the author's personal experience. (This impression is reinforced by Vaughan mentioning in the Acknowledgments that "Friends and acquaintances sent me quotes and anecdotes.") Nonetheless, they add a sense of real life to the book.

I view these two books as complementary to each other. It is hard to choose one over the other. Each has its own distinctive approach; one's choice would depend on the state of one's knowledge and what one needed to know. Clearly, however, Multimedia—Making It Work, with its greater specificity of detail, will become outdated sooner than *The Desktop Multimedia Bible*.

BACK TO SCHOOL

As noted above, books are not the way to gain hands-on experience with multimedia. The Multimedia Studies Program of San Francisco State University offers lots of classes in well-equipped classrooms for those wishing to learn practical techniques. The fall information session will be at Hyatt Regency, 5 Embarcadero Center, San Francisco on September 1 from 6 to 8 pm. Student projects from previous semesters will be showcased, and various corporations and professional organizations will be present. To attend the information session, call (415) 904-7700.■

Kodak *Photo CD*™

ON SITE TRANSFERS
Five levels of resolution per scan from thumbnail to 2K x 3K pixels.
100 image packs per disc.

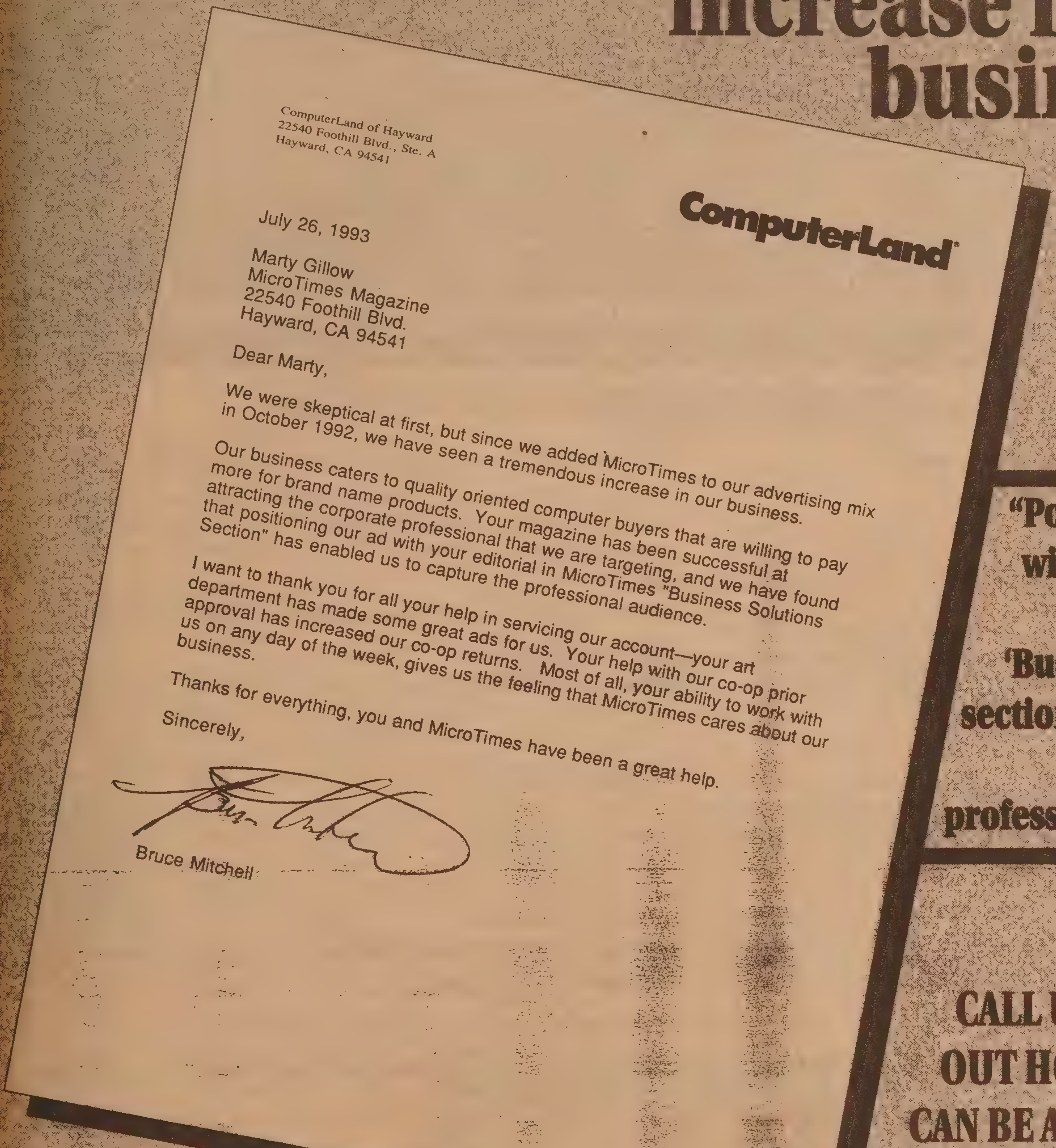
SPECIALISTS IN IMAGE DATABASE/PHOTO ARCHIVING SERVICES
Rapid retrieval of stored slides and negatives. Avoid wasteful and expensive duplication.

IMAGE AND TEXT DATA TRANSFERS TO CD-ROM
Free up Syquests (10 44MB cartridges per CD-ROM), hard disc, Exabyte, DAT tapes and other media. Windows, DOS and MAC. ISO 9660 and HFS formats.

Photo CD™

ALPHA CD IMAGING
640 Menlo Avenue, Suite 4
Menlo Park, CA 94025-4700
Call: 1-800-453-2988 or 415-325-4877
Fax: 415-325-4911

“Since we added MicroTimes... ...we have seen a tremendous increase in our business.”



ComputerLand of Hayward
22540 Foothill Blvd., Ste. A
Hayward, CA 94541

ComputerLand®

July 26, 1993

Marty Gillow
MicroTimes Magazine
22540 Foothill Blvd.
Hayward, CA 94541

Dear Marty,

We were skeptical at first, but since we added MicroTimes to our advertising mix in October 1992, we have seen a tremendous increase in our business.

Our business caters to quality oriented computer buyers that are willing to pay more for brand name products. Your magazine has been successful at attracting the corporate professional that we are targeting, and we have found that positioning our ad with your editorial in MicroTimes "Business Solutions Section" has enabled us to capture the professional audience.

I want to thank you for all your help in servicing our account—your art department has made some great ads for us. Your help with our co-op prior approval has increased our co-op returns. Most of all, your ability to work with us on any day of the week, gives us the feeling that MicroTimes cares about our business.

Thanks for everything, you and MicroTimes have been a great help.

Sincerely,

Bruce Mitchell

> “Positioning our ad with your editorial in MicroTimes’ ‘Business Solutions’ section has enabled us to capture the professional audience.”

CALL US AND FIND OUT HOW YOU TOO CAN BE A SUCCESS IN THE WORLD’S LARGEST AND BEST READ REGIONAL COMPUTER MAGAZINE!

MICROTIMES™ **(510) 934-3700**
(408) 244-4400

Remember When New Technology Was Exciting?

At Seybold San Francisco's Expo, It Still Is!

Over 250 Exhibitors! The World's Largest Computer Publishing Show!

Nowhere else on the planet can you find the excitement of seeing every new product, every new technology and every major company announcement in the business all in one place! If you're in publishing, graphics or communications, you won't need special glasses to recognize unique new products and services that will give you that crucial competitive edge. The Expo is the quickest, easiest way to find out for yourself what works and what doesn't before you commit to buying decisions.

Stunning Electronic Art Galleries Debut!

On top of the usual excitement on the trade show floor, we've added a number of special areas for you to explore what's going on artistically and technically in computer publishing:

New Interactive Gallery Opens!

The first Interactive Gallery is a showcase of advanced connectivity and interactive multimedia that will definitely stimulate your creativity! Seybold Seminars is proud to join *OnLine Design*, Yerba Buena Gardens Center for the Arts, Pacific Bell, AT&T and Fry's Electronics as sponsors.

Real-World Imaging Gallery Launched!

The Real-world Imaging Gallery is another first! Co-sponsored by *Micro Publishing News*, high-quality artwork from electronic publishing users on the West Coast will be showcased in a 600-square-foot gallery.

This Year's Computer Artists' Gallery Better Than Ever!

Seybold Seminars is pleased to host with *Computer Artist* magazine, the provocative Computer Artists' Gallery featuring high-quality reproductions of the best of today's computer-generated art.

Explore the Unknown in New Technology Labs!

Seybold's New Technology Labs offer everything from intensive hands-on demonstrations to in-depth technical tutorials. The Labs are designed to help you evaluate the newest technologies and trends in the graphic communications marketplace and have fun at the same time!

Don't Miss the Excitement at Seybold San Francisco's Expo!

Save 30! Clip and bring the FREE expo coupon below.

Call 1-800-433-5200 Ext. 650 For Information on the Full Conference, Seminars & Courses!

Other inquiries call 310 457 8391 or fax to 310 457 8599.

FREE **FREE**

Admit One

To the Seybold San Francisco Exposition

October 21-23, 1993 • Moscone Center • San Francisco, CA

Hours: Thursday & Friday 10-6; Saturday 10-4

No one under 18 admitted

SEYBOLD SAN FRANCISCO

Conference + Exposition

Presented by Seybold Seminars

SMT

Continued from page 279

Graphics and Animation: 9
Sound: 9
User Interface: 9
Overall Value: 9

There are 508MB of sound, graphics, animation, and program code on the CD. The program also needs about 6.4MB of space on your hard drive to install the required files.

Iron Helix should remove any remaining doubts that Macintosh can be a serious entertainment platform. (Spectrum HoloByte, Inc., 2490 Mariner Square Loop, Alameda, CA 94501. 510/522-1164. To order: 1-800-695-GAME)

THE TINIES

Designed By: Didier Capdeville and Pascal Gallon
Published By: Inline Software
For: Macintosh (2MB monochrome, 3MB color)
List Price: $59.95

Graphics and Animation: 9
Sound: 7
User Interface: 7
Overall Value: 7

The crankiest, messiest, and most narrow-minded life form in the universe, the Tinies are cute little furballs of blue, red, yellow, and green. Their multilevel starship is hurtling toward Earth, and your mission is to neutralize this threat by dragging every Tiny onto a color-coordinated Sleeper.

This may not sound like much of an adventure, but it is enough of a plot device for a most delightful and amusing Macintosh game. Originally developed by Kalisto in France, the game has been localized for English-speakers by Inline. You use the mouse to maneuver the Tiny Controller, a black square you drop on a targeted Tiny like a glass cage. They hate this, and will snarl and squirm energetically. Once you put your captive in motion, it will continue Newtonianly in the same direction until it hits a wall, or another Tiny. To keep things interesting, you will run into teleporters, directional energy arrows, time warps, and Resurrection Eggs.

Beyond the first few levels, you need to plan out a careful strategy to drag all the Tinies back to their Sleepers before time runs out.

As you conquer each level, you are rewarded with a password that lets you start a new game without having to work your way up from scratch. There are one hundred levels.

The package includes color and monochrome versions on separate disks. The color version is installed from a CompactPro self-extracting archive. At only 785K, the monochrome version is perfect for PowerBook users—it can even be played directly from the floppy disk. Documentation includes a 12-page story booklet, a compact installation and quick reference guide, and a leaflet explaining the rather quirky alphabet Tinies use for passwords. (Inline Software, Inc., 308 Main St., Lakeville, CT 06039. 203/435-4995. 1-800-453-7671)

MACINTOSH SOFTWARE REVIEW

POWER TO GO: UTILITIES FOR THE MACINTOSH POWERBOOK

Designed By: ALSoft
Published By: Claris Clear Choice
For: Macintosh PowerBook, requires System 7.1 or later
List Price: $99
Reviewed By: Mike Markowitz

With a good half-dozen look-alike competing products, the market for Mac PowerBook utility programs appears to be saturated, but when Claris, Apple's own software powerhouse, offers such a package under its own imprint, it's worth a closer look.

Most users need specific utilities for portable computers for several reasons:

- the limitations of battery power
- the limitations of the flat-panel display screen
- subtle differences in the "feel" of a trackball and a mouse
- security and network problems

Power To Go is installed from compressed files on a single high-density disk. A complete installation took only about three minutes on a PowerBook 100. Afterwards the program's various components take up about 830K of hard disk space. The program installs three INITs: the Power To Go software itself, Magic Menu, and StuffIt SpaceSaver.

Power To Go includes ten modules:

- Power Management
- Power Gauge
- Security
- Cursor modification
- Menu customization

PC UPGRADES
COMPATIBLES AND BRAND NAMES
COMPLETE PARTS AND LABOR WARRANTY
386 PC UPGRADES STARTING FROM $299
286 PC UPGRADES STARTING FROM 599
PC XT UPGRADES STARTING FROM 349
• MEMORY • VIDEO • HARD DRIVE • CD-ROM • MULTI-MEDIA UPGRADES
PC SALES
VESA SYSTEM - 486DX-33 VLB SYSTEM WITH 4MB RAM 170MB HD, SVGA MONITOR AND CARD, 2 FLOPPY DRIVES, MINITOWER, MOUSE, KEYBOARD, DOS, & WINDOWS $1499
486DX-50/33 COMPLETE SYSTEMS $1950/1400
486DLC-33 COMPLETE SYSTEM $1200
NETWORK SOLUTIONS
• DESIGN • INSTALLATION • TRAINING • SUPPORT
• ON-SITE SERVICE
• 24-HOUR TURN-AROUND AVAILABLE!
DEYS ENGINEERING (510) 770-1969
44380 S. GRIMMER, FREMONT CA 94538

MEMORY
We Buy and Sell DRAM, SIMM, SIPPS
At Very Good Prices, IBM Compatable & APPLE
Call For Latest Prices & Availability
COMPAQ PARTS & ACCESSORIES 30% OFF
apple LOWEST PRICES ON MEMORY!
IBM & COMPATIBLES LOWEST MEMORY PRICES
WE CERTAINLY WELCOME OEM & RESELLERS
•WE BUY SCRAP BOARDS w/MEMORY or CPU's...TOP PRICES!!
•WE ARE LOOKING FOR USED 1MBx1,80/70/60ns DIP's
C.G.I. TECHNOLOGY
CALL FOR LOWEST GUARANTEED PRICE!
(408) 973-9840
Fax: (408) 973-8710

Time for a change?
Increase your marketability.
Increase your salary.
Increase your Networking Knowledge.

When you become a CNE, you become a NetWare expert. Thus increasing your value and salary expectations in the job market. You will also receive other advantages that will help you manage networks more effectively.

NOVELL

CNE QUICK COURSE

Whether or not you're already proficient with NetWare, it's easier than ever to obtain your CNE certification by registering for the CNE Quick Course℠. Developed by Novell's former CNE program manager, the CNE Quick Course℠ is offered only by Certified Network Educators, and allows CNE certification in just 5 DAYS.

Register for the CNE Quick Course℠, and receive MS-DOS, Microcomputer Concepts Manuals, and 7 Novell Vouchers, FREE!

CNE & ECNE CERTIFICATION is closer than you think.
Call Now to Reserve Your Seat.

Certified Network Educators

To Register for classes call
1 800 9-NOVELL.
Novell Authorized Education Centers

Hands-on Hardware Training

Call Now for brochure & schedule

○ Classes Limited to 6 Students
○ PC Clone Upgrade Seminar
○ Intensive 2-day PC Troubleshooting
○ Network Hardware - Lantastic to Novell
○ New! Laser Printer Maintenance
○ New! CNE Study group - hardware focus

Highly rated classes range from $75 to $290

(510)-836-2040

EXCEL MICRO SOLUTIONS
1730 Franklin St, Oakland CA

MONITOR REPAIRS

$55 Monitor Repairs plus parts
$40 Monitor Alignment & Adjustment

NEW MONITORS

SVGA .28 Non-Interlaced Monitor
SPECIAL $275

New Systems and Maintenance Service Available!

We have been repairing computers for over 10 years
SPECIAL DEALER DISCOUNTS
BACKYARD COMPUTER SERVICES
(510) 689-3733
REFURBISHED EQUIPMENT AVAILABLE!

- Screen Saver
- Airport startup
- Sleep control
- Disk activity indicator
- Modem activity indicator

Rather than grabbing a section of the menu bar's scarce real estate, like many other PowerBook utilities, Power To Go confines its main displays to a configurable floating palette that includes the battery status, the estimated time remaining, the current time, and an instant Sleep button.

Magic Menu is a neat little INIT that makes pull-down menus pull themselves down as soon as the cursor touches the desired item on the menu bar—you don't have to hold down the mouse button to see the menu. This makes the track ball a little easier and more efficient to use.

SpaceSaver is a file compression utility that operates "on the fly"—it compresses files when you save them and uncompresses them when you open them. The process takes some extra time, but many PowerBook users are hurting for more hard disk space, and will not mind the slight delay.

Competition is likely to drive the makers of PowerBook utilities toward increasingly identical and elaborate feature sets. The Power To Go package lacks some useful functions (like a quick way to toggle AppleTalk on or off) found in other products. On the other hand, it is reasonably sized and priced, and likely to be well supported. (Claris Corp., 5201 Patrick Henry Dr., Santa Clara, California 95052-8168. 408/727-8227)

AMIGA SOFTWARE REVIEW

TYPESMITH

Published By: Soft-Logik Publishing
List Price: $199.95
Reviewed By: Douglas J. Nakakihara

Soft-Logik has introduced the first outline font editor available for the Amiga. Outline fonts are superior to standard bitmapped fonts because they can be displayed and printed at the highest possible resolution. Furthermore, they can be resized without any quality loss. TypeSmith loads and saves PostScript, Compugraphic, and Soft-Logik outline fonts. GoldDisk .dat and .metric files can also be generated.

Using lines and bezier curves to draw fonts, TypeSmith features many of the same drawing tools available in dedicated structured drawing programs, like ProDraw and Art Expression. You can even import and export IFF DR2D structured drawings (Art Expression supports this format). However, some features of DR2D are not used in outline fonts, like color and grouping. You can import an existing PostScript AFM file to help ease the procedure of setting up kerning pairs. Bitmapped images and fonts can be loaded for manual tracing.

TypeSmith has a rich set of ARexx commands. Those familiar with PostScript will feel right at home with many of the commands. The glaring omission of a command to generate the GoldDisk support files was a big disappointment, however.

The manual is thorough and the interface is slick. Even if you don't want to design your own fonts, TypeSmith is worth its cost just to translate formats. It has worked much more reliably than GoldDisk's font conversion utility. I highly recommend this product for anyone that does desktop publishing on the Amiga. (Soft-Logik Publishing Corp., PO Box 510589, St. Louis, MO 63151-0589. 1-800-829-8608)

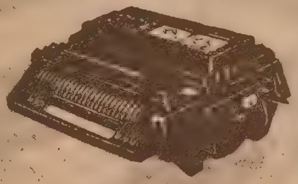
CARTRIDGE SERVICE OF AMERICA

One Of The Largest And Most Experienced Rebuilders Of
LASER PRINTER and COPIER
CARTRIDGES

Laser I–II–III–IIP

$29.00
Exchange
$10 extra without ex.

PC-Copier Cartridges

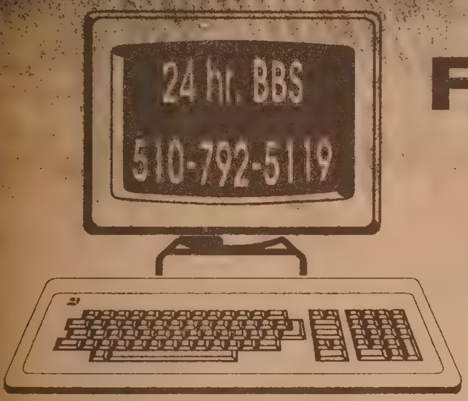


All Other Cartridges Available
call for Pricing

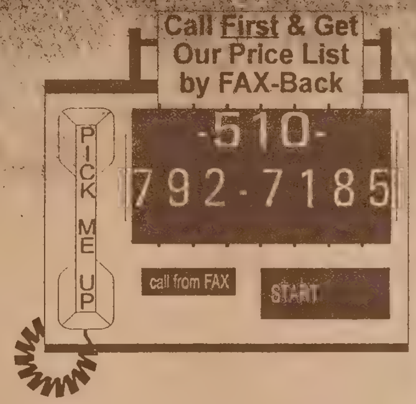
ALWAYS THE LOWEST PRICE — AND GUARANTEED!

We Also Provide
SALES — SERVICE
COMPUTERS — PRINTERS — COPIERS
SOFTWARE TRAINING COURSES
(510) 634-0405

WHOLESALE PROGRAMS AVAILABLE
SINCE 1984


24 hr. BBS
510-792-5119

FRED HANEY & SONS COMPUTER CO.


Call First & Get Our Price List by FAX-Back
-510-
792-7185
PICK ME UP
call from FAX
START

For The Best Possible Up To Date Pricing, Call One of The Following:

FAX-BACK Price Sheet by Voice Request 510-792-7185

OEM & Dealers Welcome

See The Newsletter On Our BBS 510-792-3443

We Offer the highest Quality Computer Products at the Best Prices. We're here to service all your Computer Needs, Today and Tomorrow!

37416 Joseph Street, Fremont, CA * Voice (510) 792-3505 FAX (510) 792-5678

ADVERTISER BY CITY INDEX

For your convenience, here is a list of advertisers by county and city. Please see the advertiser index on page 312 for the page number of the advertisement.

Marin/Solano County

Cotati
Halted Specialities

Mill Valley
Marketpro Shows
California On-Line Technologies

Novato
BCSA Computers

Petaluma
Pacific Coast Show Productions

San Rafael
Domino Computer Self
Service Centers
Hi-Q Systems
Whole Earth Access

Vallejo
Domino Computer Self
Service Center

Contra Costa County

Concord
AIM Computers
Backyard Computer
Domino Computer Self
Service Centers
Nordic Computers
Paradine Computers
R–Computer
Whole Earth Access

El Cerrito
HD Computers
Positive Solutions
Wentek Computers

Lafayette
EFI's Discount Computer

Livermore
Costas Systems

Pleasant Hill
Computown

Richmond
Evergreen Computer

San Ramon
Domino Computer Self
Service Centers
Nordic Computers

Walnut Creek
Advance Computer
Alpha Fine Furniture
Computer Selection
Compu Mart
Systems Unlimited

Alameda County

Albany
PC Ten

Berkeley
Domino Computer Self
Service Centers
McTek Systems
MicroLink Data Systems
The Other Hobbit
Whole Earth Access
Winners Circle Systems

Dublin
Comtek Computer

Emeryville
Microtech Int.

Fremont
Bold Data Technology
Deys Engineering
Domino Computer
Digital Media Labs
Elisa Technology
ENCY Systems
ETI Cable Co.
E-Z Link
FRY's Electronics
Golden Micro
Herb's Software Clearance Center
Jump Micro
King Star Computer
Libre Service Computer, Inc.
Micro Distribution Center
Microtech Int.
New Media
New River
Shasta Computers
Songtech International
Strata Remarketing
Swap Computer
Sysper Technologies
Technology Trend
U Miracle Computer
USM Systems
World Net Microsystems

Hayward
California Computer
Cal. Tech Corp.
Cypress Computer
Domino Computer Self
Service Centers
MCT, Multi Connection
Technology
Printer Works

Newark
Gigabytes

Oakland
Domino Computer
Excel Micro Solutions
MIS Services
PC Professional Inc.

Pleasanton
Comtek Computer
Domino Computer
Libre Service Computer, Inc.

San Leandro
PC Ten

Santa Clara County

Campbell
Domino Computer Self
Service Centers
Info Products

Cupertino
Cupertino Computer

Los Altos
Domino Computer Self
Service Centers

Menlo Park
Alpha CD Imaging

Milpitas
Accord Systems
Bay Computer
Beta Nineties Computer, Inc.
Bozeman Marketing Group
C.B. Memory & Computers
Comand Line Computers
Computer Art Tech
Computown
Domino Computer Self
Service Centers
Hi-Tech USA
Laitron Computer
Legend Computer
Microlink
Spider Graphics
Wedge Technology

Mt. View
Computown

Palo Alto
Comtek Computer
FRY's Electronics
New River
Palo Alto Micro
PC Warehouse
USM Systems

San Jose
AMT International
Berlin Technology
Chicotec
Clarity Tech
Compusys
Computerwerx
Computask
Domino Computer Self
Service Centers
Golden Gate Computer
International Microdevices
ISC Computers
JDR Microdevices
Memory Source Int.
Miracle Computers
NCA Peripherals
Pixel USA
Prestige Computer
Tower Computers
Value Store
Whole Earth Access
WIT International

Santa Clara
Access Computer
Technologies
ASA Computers
Central Computer
C & J Computer
Computer Express
Comtek Computer
Domino Computer Self
Service Centers
Halted Specialities
Hitron Systems
Jemini Electronics
MediaValue
MicroLink Data Systems
Proven Technology
PSC Computing
Storage Systems Engineering
Specom Technologies
Tanstaafl
Technoland
USM Systems
Wentek Computer

Sunnyvale
ACR Systems
Advance Computer
American Multi Systems
Aroma Computer
ASP Computer Products
Commandline Computers
Computer Selection
Corporate System Center
Disk Drive Depot
Domino Computer Self
Service Centers
FRY's Electronics
Golden Valley Systems
HD Computers
Hi-Q Systems
HKG Computers
HT Electronics
Legend Computers
LTI Leopard Technology
MP Computer
NCA Peripherals
Network Associates
PC Warehouse
PromoX Systems
Schwab Computer
Top Data
Triad Computer
USM Systems

Santa Cruz County

Capitola
Libre Service Computer, Inc.

San Mateo County

Burlingame
Computer Swap

Daly City
Domino Computer Self
Service Centers

Foster City
Laitron Computers

Millbrae
Domino Computer Self
Service Centers

Redwood City
Computer Selection

San Bruno
Comtek

San Carlos
Belmont Systems, Inc.
Friendly Software
Hi-Tech USA

San Mateo
Libre Service Computer, Inc.
Now Computers
Whole Earth Access

South San Francisco
Beta Nineties Computer, Inc.
Comet Microsystems
Computerland of Serramonte
Fastlink Network Products
Universal Computer Products
USM Systems

San Francisco County

San Francisco
Advance Computer
Atman Computer Inc.
A&M Technology
Clarity Tech.
Comart Business Systems, Inc.
Compudata
Computer Selection
Computown
Computer Quick
Control Data
CRL
Domino Computer Self
Service Centers
Horizon Training
ITS CD
Konicom
Libre Service Computer, Inc.
MicroLink Data Systems
MPS Multi Media
Ramcomp
SF State University
USM Systems
Whole Earth Access

Sacramento County/ Stockton

Sacramento
Computer Leap
Domino Computer Self
Service Centers
Halted Specialties
HD Computers
Hi-Q Systems
Libre Service Computer, Inc.
Whole Earth Access

Stockton
Hi-Q Systems

Stantislaus County

Modesto
Aroma Computer

Out of State
Commodore Computers
Forminco

This index is provided as an additional service. Although we do our best to maintain accuracy, the Publisher does not assume liability for errors or ommissions.

intel inside

Quality You Can Count On!!!

BOLD

DATA TECHNOLOGY, INC.
Computer Systems
Components
Peripherals

BDT-386DX-33Mhz

- BDT Basic Package
- BDT 386DX-33 MotherBoard
- Intel 386DX-33 CPU on Board
- AMI Bois
- Baby AT DeskTop or Mini Tower Case With 230W Power Supply

$999

BDT-386SX-25Mhz

- BDT Basic Package
- BDT 486SX-25 MotherBoard
- Intel 486DX-25 CPU on Board
- AMI Bois
- Baby AT DeskTop or Mini Tower Case With 230W Power Supply

$1029

BDT-486DX-33Mhz

- BDT Basic Package
- BDT 486DX-33 MotherBoard
- Intel 486DX-33 CPU on Board
- 64K Write Back Cache
- AMI Bois
- Mini or Medium Tower Case With 230W Power Supply

$1339

BDT-486DX-50Mhz

- BDT Basic Package
- BDT 486DX-50 MotherBoard
- Inte CPU on Board
- 256K Write Back Cache
- AMI Bois
- Tower Case With 250W Power Supply

$1459

All Basic Systems Include:

- 4MB of 70ns RAM
- 1.2 and 1.44 Floppy Disk Drive
- 80MB IDE Hard Disk Drive
- 2 FDD and 2 HDD 1:1 IDE Controller
- 2 Serial, 1 Parallel and 1 Game Port
- VGA Card with 512K on Board
- 14" VGA Monitor
- 101 Key Enhanced KeyBoard

Upgrade Options:

– 14" Super VGA Monitor with 1MB SVGA Card	+$90
– 14" Super VGA Monitor with Window Accelerator Card	+$175
– 120MB IDE Hard Disk Drive	+$60
– 200MB IDE Hard Disk Drive	+$240

BOLD DATA TECHNOLOGY

920 Auburn Ct.
Fremont, CA 94538

Tel: (510) 490-8296
Fax: (510) 490-9428

The Intel Logo is a Registered Trademark of Intel Corporation

Prices Subject to Change Without Notice. Not Responsible for Typographical Errors.

ADVERTISERS INDEX

Advertiser	Page
COMART BUSINESS SYSTEMS	8
A & M TECHNOLOGIES	10
ACCESS COMPUTER TECHNOLOGIES	130-145
ACCORD SYSTEMS	126
ACR SYSTEMS	280,281
ADVANCE COMPUTER SYSTEMS	4,5
AIM COMPUTERS	106
ALPHA CD IMAGING	304
ALPHA FINE COMPUTER FURNITURE	312
AMERICAL GROUP	301
AMERICAN MULTI SYSTEMS	7
AMT INTERNATIONAL	100,101
AROMA TECH, INC.	110,111
ASA COMPUTERS	98-99
ASP COMPUTER PRODUCTS	10
AUTHORIZED TECHNICAL SERVICES	296
BACKYARD COMPUTER SERVICES	308
BAY COMPUTER	76
BCSA COMPUTERS	129
BELMONT SYSTEMS, INC.	104,105
BERLIN TECHNOLOGY	114
BETA NINETIES COMPUTER	19
BOLD DATA TECHNOLOGY	311
BOZEMAN MARKETING GROUP, INC.	226
C.B. MEMORY & COMPUTERS	94
C.G.I. TECHNOLOGY	307
CAL TECH CORP.	251
CALIFORNIA COMPUTER COMPANY	127
CALIFORNIA ONLINE	18
CARTRIDGE SERVICE OF AMERICA	309
CENTRAL COMPUTER SYSTEMS	234-237
CERTIFIED NETWORK EDUCATORS	308
CHICOTEC	113
CLARITY TECHNOLOGIES	52
COAST COMPUTERS, INC.	190
COMET MICRO SYSTEMS	227
COMMAND LINE COMPUTER	21
COMMODORE COMPUTERS	123
COMPU DATA	79
COMPUMART	48
COMPUTASK	95
COMPUTER ART	103
COMPUTER EXPRESS	249
COMPUTER SELECTION	63
COMPUTER SWAP	20
COMPUTER WERX	25
COMPUTERLAND OF SERRAMONTE	27
COMPUTOWN	40-43, 73
COMTEK COMPUTERS	257
CONTROL DATA SYSTEMS INC	62
CORPORATE SYSTEMS CENTER	33
CRL	126
CUPERTINO COMPUTER	12
CYPRESS COMPUTERS	34
DEYS ENGINEERING	307
MOBILE WORLD	196
DISK DRIVE DEPOT	3
DOMINO COMPUTER	11
E-Z LINK TECHNOLOGIES, INC.	118
EFI'S DISCOUNT COMPUTER	297
ENCY SYSTEMS	29
EVERGREEN COMPUTER INT'L	276-278
EXCEL MICRO SOLUTIONS	308
F.C. INTERNATIONAL CO.	190
FORMINCO	124
FRED HANEY COMPUTERS	309
FRIENDLY SOFTWARE	285
FRY'S ELECTRONICS	2,157-187, 315
GIGABYTES	194, 196
GOLDEN MICRO COMPUTER	78
GOLDEN VALLEY SYSTEMS	195
H D SYSTEMS	150-153
HALTED SPECIALTIES	81
HI-TECH USA	258,259
HIQUALITY SYSTEMS, INC.	56-59
HITRON SYSTEMS	192,193
HKG COMPUTERS	221
HT ELECTRONICS	298
INFO PRODUCTS	35
INPUT AUTOMATION	295
INTERNATIONAL MICRO DEVICES	84
ISC COMPUTERS	37
IT'S CD	295
J & K TECHNOLOGIES	12
JDR MICRODEVICES	22
JEMINI ELECTRONICS	286,287
JUMP MICROSYSTEMS	85
KINGSTAR COMPUTER	9
KONICOM	291
KUREO TECH LTD.	26
LAITRON COMPUTER	222
LAITRON COMPUTER	223
LEGEND COMPUTER	125
LIBRE SERVICES COMPUTER, INC.	45
LTI LEOPARD TECHNOLOGIES	83
M.A.C.	146
MARKET PRO	256
MCTEK SYSTEMS	239
MEDIA VALUE	53
MICRO DISTRIBUTION CENTER	107
MICROLINK DATA SYSTEMS, INC.	14-16
MICROTECH INTERNATIONAL	88-90
MIRACLE COMPUTER	225
MIS SERVICES	36
MP COMPUTER	13
MPS MULTIMEDIA	39
MCT, MULTI CHANNEL TECHNOLOGY	154
MULTI MICRO SYSTEMS	115
NCA PERIPHERALS	197-219
NETWORK ASSOCIATES CORP.	255
FASTLINK NETWORK PRODUCTS	75
NEW MEDIA	71
NEW RIVER	230
NORDIC COMPUTERS	313
NOW ELECTRONICS	244,245
PALO ALTO MICRO	124
PARADINE COMPUTER SYSTEMS	302,303
PC PROFESSIONAL, INC.	66
PC TEN	87
PC WAREHOUSE	93
PIXEL USA COMPUTER	246,247
POSITIVE SOLUTIONS CORP.	293
PRESTIGE COMPUTER	228,229
PRINTER WORKS	47
PROMOX SYSTEMS	253
QUALITY COMPUTER	279
QUARTERDECK OFFICE SYSTEMS	316
R-COMPUTER	117
RAMCOMP	46
SCHWAB COMPUTER CENTER	108
SEYBOLD SEMINARS	306
SFSU EXTENDED EDUCATION	254
SHASTA COMPUTERS	54,55
SMART MICRO TECHNOLOGIES	64
SNAP COMPUTERS	26
SONGTECH INTERNATIONAL, INC.	265
SPIDER GRAPHICS	109
STORAGE SYSTEMS ENGINEERING	248
STRATA REMARKETING	233
SUNAR SYSTEMS	297
SYSPER TECHNOLOGY	191
SYSTEMS UNLIMITED	220
TANSTAAFL MANUFACTURING, INC.	67
TECH TREND, INC.	61
TECHNOLAND	189
THE OTHER CHANGE OF HOBBIT	232
TOP DATA	149
TOWER COMPUTER	119
TRIAD COMPUTER	194
THE SUPER LINK	65
UMIRACLE MICROSYSTEMS	120,121
UNITED SOLUTIONS	28
UNIVERSAL COMPUTER PRODUCTS	102
COMPU EXPO '93	289
USM DISTRIBUTORS	240,241
VALUE STORE	77
VASTER ELECTRONICS CORP.	64
WEDGE TECHNOLOGY	243
WHOLE EARTH ACCESS	30,31
WINNER'S CIRCLE	51
WIT INTERNATIONAL	233
WORLD-NET MICROSYSTEMS	260,261
YOKOHAMA TELECOM CORPORATION	242

GREAT CART!! ...FOR MULTIPLE SITUATIONS

NOW ALSO IN STOCK 38" LONG

★ 45" WIDE KEYBOARD TRAY WITH STURDY DRAWER GLIDES
★ 20" DEPTH REQUIRES VERY LITTLE SPACE (25" DEEP VERSION FOR DEEP MONITORS
★ MOBILITY
★ OPTIONAL LOW OR TALL HUTCHES

(800) 974-0277
(510) 930-0277

OPEN MON.-FRI. 9:30-5:30
WED. 'TIL 8:00 • SAT. 10-5

ALPHA
FINE COMPUTER FURNITURE

2241 N. MAIN
WALNUT CREEK

This index is provided as an additional service. Although we do our best to maintain accuracy, the Publisher does not assume liability for errors or ommissions.

Lifetime In-Store Labor Warranty
1 Year Warranty On Parts

THOUSANDS OF SATISFIED CUSTOMERS SAY, "GO SEE NORDIC"

OVER 17,999 SYSTEMS SOLD!

NORDIC COMPUTERS

GREAT PRICE

486DX2-66 VESA LOCAL BUS SYSTEM

w/Hard Drive & Super VGA Monitor

486DX2-66, 2VLB Slots
4 MB RAM, 70ns
ISA Hard Drive & Controller
Viewsonic 4E SVGA Monitor (.28dp)
Teac 1.2 & 1.44 Floppy Drives
2 Serial, 1 Parallel Port
Maxiswitch or Keytronic Keyboard
Medium Tower Case
DOS 6.0 w/Manual
Lifetime Labor Warranty, 1 yr. parts

SVGA 130MB	SVGA 245MB	SVGA 345MB
$1839	$1909	$1989

GREAT PRICE

MULTIMEDIA VESA LOCAL BUS SYSTEM

w/Hard Drive & Super VGA Monitor

486-33DX, 2 VLB Slots
Same as 486-33 Configuration

PLUS

Texel CD-ROM, 256ms
Viewsonic 15 SVGA Monitor (.28 dp)
Genoa VESA Video Card
Sound Card, Speakers
3-button Mouse
Medium Tower Case
•OPTION WIN-TV $599 ADDITIONAL
Upgrade to 486DX2-66..................**$249**

SVGA 170MB	SVGA 245MB	SVGA 345MB
$2529	$2599	$2679

Nordic Computers Builds all of its computers from premium quality components. Such as:

TEAC Floppy Drives	Logitech Mouse Products
Viewsonic Monitors	AMI BIOS, Intel CPU's
Maxtor Hard Drives	UL Approved Power Supplies
Conner Hard Drives	FCC Class B Rated
Maxiswitch Keyboards	
Keytronic Keyboards	

System Upgrades

386-40DX Upgrade Kit	$465
486-33DX Upgrade Kit	$789
486DX2-66 Upgrade Kit	$995

Kits include: VESA Motherboard, CPU & 4MB of Memory (Installation extra)

CUSTOM CONFIGURATIONS AVAILABLE — CALL FOR QUOTES

486-50 System

VESA LOCAL BUS

486-50DX 2VLB Slots
4 MB RAM, 70ns
IDE Hard Drive & Controller
Viewsonic 4E SVGA Monitor
Teac 1.2 &1.44 Floppy Drives
2 Serial/1 Parallel Port
Maxiswitch or Keytronic KD
Medium Tower Case
DOS 6.0 with manual
Lifetime Labor Warranty
1 yr. parts

SVGA 130MB	SVGA 245MB	SVGA 345MB
$1769	$1839	$1919

486-33 System

VESA LOCAL BUS

486-33DX 2VLB Slots
4 MB RAM, 70ns
IDE Hard Drive
Viewsonic 4E SVGA Monitor
Teac 1.2 & 1.44 Floppy Drives
2 Serial/1 Parallel Port
Enhanced Keyboard
DOS 6.0 with manual
Lifetime Labor Warranty
1 yr. parts

SVGA 130MB	SVGA 245MB	SVGA 345MB
$1569	$1639	$1719

386-40 System

w/Hard Drive & Monitor

40MHz (Upgradable Board)
Noise Killer
4 MB RAM, 70ns
IDE Hard Drive
Super VGA Monitor
Teac 1.2 & 1.44 MB Drives
2 Serial/1 Parallel Port
Enhanced Keyboard
DOS 6.0 with manual
Lifetime Labor Warranty
1 yr. parts

MVGA 40MB	SVGA 80MB	SVGA 130MB
$1039	$1249	$1279

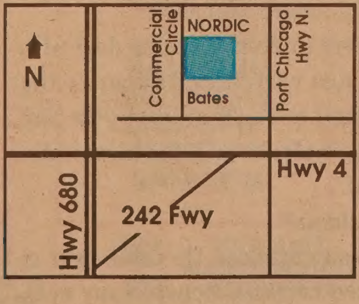
System Add-Ons

2400 Modem	$30
14.4/14.4 Fax/Modem	$159
Logitech MouseMan	$69
Additional Memory, per MB	CALL
1.2 Floppy/1.44 Floppy	$57/47
CPU Cooling Kit	$17
Zoltrix Audio Pack	$68
Texel CD-ROM, 265ms	$439
Lithium Battery	$10
Noise Killer	SALE $39

NORDIC COMPUTERS

CONCORD

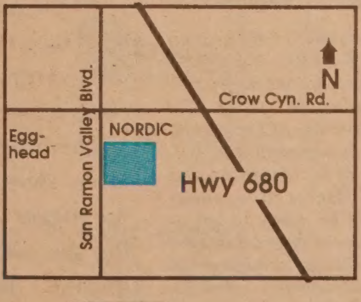
5060 COMMERCIAL CIRCLE, UNIT A
CONCORD, CA 94520
(510) 687-3050
M-F 10:00-6:00 • Open Sat. 10:00-4:00



NORDIC COMPUTERS

SAN RAMON

2438 SAN RAMON VALLEY BLVD.
SAN RAMON, CA 94583
(510) 743-9390
M-F 10:00-6:00 • Open Sat. 10:00-4:00



Prices subject to change without notice. Dealer inquiries welcome.

Oh, Not Again! Abducted By Aliens

Or

IBM Secret Factoid Revealed

BY JOHN C. DVORAK

It happens this time of year whether I like it or not. I'm abducted by aliens. It's a good thing too, since this is the slow time where my ability to write about anything substantive is just about nil. Things perk up in about two months. Until then, I'm saved by aliens...er, I mean abducted.

Actually I wasn't expecting to be abducted this last week. I had plenty of things to do and had just lost the hard disk on my Quadra 700. What a drag.

So I wasn't in a good mood when there was a knock on the door. I opened it to find Daehtihs and Norom, two aliens I'd encountered a year earlier when their planet needed some consulting on whether to use OS/2 or wait for Windows NT.

DVORAK'S LAST COLUMN

Norom spoke. "You must come with us Devoraky. Our planet is in turmoil over the Windows NT beta. There is a revolution, civil war, divorces, curdled milk, rotten hamburger, chiseled plastic, broken boxes, mangled flesh." His English wasn't that good. I slapped him. "Pull yourself together," I said.

Daehtihs held up a ray gun. It looked nasty. "You must come now, no time to waste."

"What are you going to do to me if I say no? Does that gun actually work? The last time you pulled a gun on me it was just a cigarette lighter."

The little bug-eyed guy pointed the gun at my collection of lizard heads and pulled the trigger. A beam shot from the muzzle of the gun and vaporized the collection in an instant. I decided to go with them, if for no other reason than to complain about the collection being destroyed. "Do you know how hard it is to get a beaded lizard head?"

The aliens couldn't care less about the collection as they walked me to the saucer which was poised about 200 feet over my driveway. "How long will we be gone?" I asked. No answer. These guys weren't in the mood for chit-chat, I could tell. Usually they ask for some strawberry ice cream, a favorite of all the bug-eyed aliens it seems. This time, nothing.

We walked under the saucer, from which a green beam emerged, drawing us up into the vehicle. In an instant we were buzzing through space at speeds beyond measure.

The two creeps escorted me into a waiting room and locked the door. When I turned to find someplace to sit I was stunned. Sitting there, rocking to and fro, with his arms crossed, was Bill Gates! No kidding.

Not looking up or offering to shake hands he kept rocking. "Hello, Dvorak...what are you doing here?"

"Probably the same as you. To consult with the aliens. Right?"

"About what?"

"Windows vs. OS/2 I guess."

Gates looked up and stopped rocking. "I want them to vaporize Berkeley Breathed, that damned cartoonist. I'm not as homely as he makes me look in that crummy cartoon of his. The guy is off the deep end."

"You're here to hire a hit alien?"

"No, I'm here to do a licensing deal with the aliens. I just wish they'd vaporize the bastard on their own. Or at least give him one of those implants and get him under better control."

"What implants?"

Gates looked quizzical. He came over to me and looked carefully between my eyes, around my nose, and behind my ear. "I'll be damned. I thought everyone had the implant. You don't?"

"You do? Why?" I was now looking closely at him to see if there was any marking I could identify as an implant point. Of course, I had no idea what to look for.

"Yes, of course. Have you been with these guys before?"

I nodded.

"And you can remember all the details of the meetings when they put you back on Earth?"

I nodded again.

"Wow, interesting idea. I'm not allowed to do that. If I saw you tomorrow in Redmond I wouldn't even know that we had this conversation."

Just then the ship rocked from an explosion. Gates jumped up and punched some buttons on a viewing screen, revealing an image of the outside. The ship was under attack. Huge plasma bombs were flying everywhere.

"IBM!! Dammit, they know I'm here. We'll have to head back and do this some other time. I knew this would happen when Rentsreg the Terrible took over IBM." Suddenly the ship swerved violently and went into high speed heading back to earth.

I blacked out during the high-speed flight and woke in time to see Gates escorted to the transportation beam. I yelled out, "Hey, you didn't tell me about Rentsreg the horrible or terrible or whatever. Who is it?"

Gates looked back at me, "Gerstner, you idiot. Rentsreg/Gerstner. Same thing. He's actually an alien. Just look at him. You can tell." He was beamed off back to earth before he could say any more.

An alien escorted me to the beam back point. "What about the consulting job?" I asked.

"Next time you need a column!" he said. ■

Copyright© 1993 by John C. Dvorak. All rights reserved. John C. Dvorak graduated from the University of California. He is a contributing editor of PC Magazine *and* MacUser, *and is considered by many to epitomize the contrarian view of things—a charge he vehemently denies. Dvorak's motto is: If you have nothing nice to say, then don't say anything at all.*

Savings Headquarters

FRY'S AND HP KNOW HOW TO MAKE WAVES!

HEWLETT PACKARD
Authorized Dealer
A 50 YEAR TRADITION OF QUALITY.
HP DELIVERS PC PRODUCTS YOU CAN DEPEND ON.

DeskJet 500C Color InkJet Printer

COLOR INKJET OUPUT AT 300 DPI!
Prints in Color or Black and White
100 Sheet Paper Feeder
Whisper Quiet
3 Year Warranty #1632480

$\$398^{95}$

Color PaintJet XL300

HP C2856A Color Graphics Ink Jet Printer

300 DPI Plain Paper
200 CPS NLQ
Prints on Transparency Film & Paper
360 Colors addressable, over 16.5 million color available
#1688986

$\$2199^{99}$

LaserJet 4

Fast 8ppm printing for complex documents
45 Scalable Fonts • 2MB RAM
600 DPI Print Quality at a 300 DPI Price
300 Page Paper Capacity
Ideal for Windows & Graphics
Optional Full Network Capabilities
#1734140

CALL FOR BEST PRICE

DeskJet 500 Inkjet Printer

300 DPI LASER QUALITY
Scalable Fonts for MicroSoft Windows 3.0
Water Resistant Ink
Character Kerning for Improved Letter Spacing
Whisper Quiet • Three Year Warranty
#1529128

$\$298^{95}$

LaserJet 4L

- 26 built-in scalable typefaces let you shrink and enlarge type to thousands of sizes.
- 300 DPI Laser printing with HP Resolution Enhancement technology and microfine toner for smooth, sharp text and graphics.
- 1MB standard memory with Memory Enhancement technology effectively doubles your printer memory.

#1786963

$\$657^{95}$

DeskJet Portable Inkjet Printer

300 DPI portable printing for both text and graphics.
Fast- up to 3 pages per minute.
Small, lightweight and easy to carry.
Four portrait and two landscape typeface built-in.
84 typeface, size and style combination.
#1733714

$\$349^{95}$

LaserJet 4Si

- Expandable and flexible, excellent for networks
- Fastest HP LaserJet printer at 17 ppm
- Multiple language capability with auto switching
- True 600 x 600 dpi printing with REtand microfine toner
- 75,000 page/month duty cycle and flexible paper-handling
- HP quality and reliability

#1779583

THE PERFECT NETWORK SHARED PRINTER!

DeskJet 550C Color InkJet Printer

COLOR INKJET OUTPUT AT 300 DPI!
Prints in Color or Black and White at the same time
100 Sheet Paper Feeder • Serial/Parallel
13 Scalable Fonts for Windows • 84 DOS Fonts
Whisper Quiet • 3 Year Warranty #1733703

$\$599$

Home of Fast, Friendly, Courteous Service

Fry's ELECTRONICS

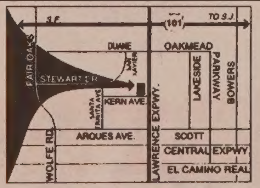
Prices good thru September 13, 1993

Limit Rights Reserved
Not Responsible For Typographical Errors

STORE HOURS
MON-FRI
8AM-9PM
SATURDAY
9AM-8PM
SUNDAY
9AM-7PM

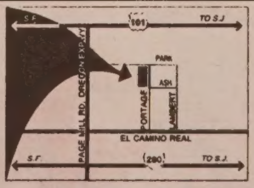
VISA AND MASTERCARD ACCEPTED

CORPORATE P.O. FAX # (408)735-6800



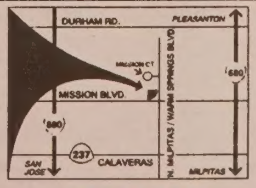
S.F.
101
TO S.J.
FAIR OAKS
STEWART DR
DUANE
SAN XAVIER
SANTA TRINITA AVE
KERN AVE
OAKMEAD
LAKESIDE
PARKWAY
BOWERS
ARQUES AVE.
WOLFE RD.
LAWRENCE EXPWY.
SCOTT
CENTRAL EXPWY
EL CAMINO REAL

SUNNYVALE
1177 Kern Ave.
(408) 733-1770



S.F.
101
TO S.J
PAGE MILL RD. OREGON EXPWY
PARK
ASH
PORTAGE
LAMBERT
EL CAMINO REAL
S.F.
280
TO S.J.

PALO ALTO
340 Portage Ave.
(415) 496-6000
(415) 496-6044

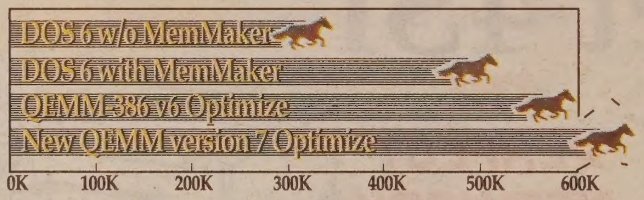


DURHAM RD.
PLEASANTON
MISSION CT
680
MISSION BLVD.
880
237
CALAVERAS
SAN JOSE
N. MILPITAS / WARM SPRINGS BLVD
MILPITAS

FREMONT
440 Mission Ct.
(510) 770-FRYS (3797)
(510) 770-3700

DOS 6 DOS 6 DOS 6 DOS 6
DOS 6 DOS 6 DOS 6

How to Look a Gift Horse in the Mouth



We tested DOS 6 with and without MemMaker and QEMM6 and our new QEMM 7 runs away from all of them. See details of test conditions listed below.

Even a *free* memory manager may not be a bargain—especially if it can't give you all the memory you need.

Introducing QEMM 7 The Memory Manager Worth Paying For

The newest version of QEMM, version 7, pioneers new ways of using the critical area between 640K and 1024K. It optimizes this area, taking into account the many drivers that need more memory at start-up than when running; instantly calculating millions of possible memory configurations to find still more memory for your applications, TSRs and utilities to use.

Instant Riches

What does more memory mean in a practical sense? It means that your DOS and MS Windows programs run faster, smoother and more reliably. It means you can continue to add valuable utilities, drivers, TSRs and new capabilities to your PC. Whether it's workhorse drivers like LAN utilities and fax drivers; productivity-enhancers like disk caches and disk compressors; or fun and exciting capabilities like sound boards, CD ROM drivers, graphics tablets, etc. The better your memory is managed, the more versatility and flexibility your PC will have. QEMM 7 lets you have it all without fear of 'out of memory' messages or crashes.

The #1 memory manager for DOS & Microsoft Windows

DOS 6 Giveth; DOS 6 Taketh Away

The best feature of new DOS 6 is the stable of utilities it includes. Trouble is, they all eat up memory. DoubleSpace file compression needs 43K, Vsafe anti-virus needs 7-45K, Smartdrv disk cache needs 28K and even Undelete takes 10-14K as a resident program. Using MemMaker, you could easily lose—not gain—available 'conventional' memory in DOS 6.

New QEMM 7 takes the best of the new DOS 6 features into account, finding ways to cut memory demands for these utilities by up to 80%, ensuring that the all-important memory below 640K is free for your programs. And QEMM 7's seemingly small feature of supporting DOS 6's multiple configurations gives you the flexibility and ease of setup that you expect. (MemMaker doesn't work well with this important DOS 6 feature.)

Page Frame: the Key to Your Future

There's been a lot of jealous talk about our patent-pending Stealth technology. Nobody els can duplicate its 48-115K gains.

The key to Stealth is its use of a 64K reserv area above 640K called the page frame. Besides being used by Stealth, the page frame lets Lotus 1-2-3 r2.x run larger spreadsheets and WordPerfect 5.x larger documents. It's also used by DESQview for multitasking, Novell Netware, IBM LAN Server and DECnet for reducing the network driver memory footprint, plus games for fast action. You sacrifice all this when other memory managers turn off the page frame. Stealth saves you room to set up your PC with a mouse, CD ROM, sound board, a network suc as Novell NetWare, create 8-24K of extra memo for optimal MS Windows performance, use all DOS 6's memory-hungry utilities and still have more than 630K to run applications smoothly and safely.

WEEK
ANALYST'S CHOICE
PC MAGAZINE EDITOR'S CHOICE
February 11, 1992
QEMM-386, Version 6.0
THE PC/COMP
20
BEST PC PROD
CATEGO
WINN
INFO WORLD PRODUCT OF THE YEAR 1991
W 100
THE BEST
LOTUS
WordPerfect
Reader's Choice
PC WORLD BES
1991
BYTE
AWARDS OF EXCELLENCE
1991
BYTE
POURNELLE'S USER'S CHOICE AWARD
1992
BY
READERS' CHOICE AWARD

Prior versions of QEMM won just about every competition i sight, as well as remaining the #1 best-selling memory mana 5 years straight.

Put Your Money on a Winner QEMM 7

The new and ever more exciting capabilities coming to your PC will all compete for memor with your favorite applications, TSRs and drive And that makes QEMM 7 the most vital utility you can own.

Our seventh-generation memory manager a thoroughbred that helps you get the most out of your PC today and tomorrow.

Quarterdeck

How we got the chart numbers CPU—486/33 ALR Power/business VEISA machine equipped with 16 megs of RAM and running MS-DOS 6. Comparisons were done using the following memory managers: QEMM 7, QEMM 6.02, MS-DOS 6 MemMaker. In addition to the driver (or drivers) required by eac memory manager, the following drivers, DOS resources and programs were loaded for all comparisons: in the CONFIG.SYS file: SETVER.EXE, DOS=HIGH, FILES=20, BUFFERS=10, STACKS=0.0, MVSOUND.SYS, SNDBK12.SYS, SLCD.SYS, DOS SHELL=statement, in the AUTOEXEC.BAT file: VSAFE, MSCD UNDELETE, LSL.COM, NE2000.COM, IPXODI.COM, NETX OR EMSNETX, MOUSE.COM, SMARTDRV.COM, PRTSCCAP.COM. ©1993 Quarterdeck Office Systems. Trademarks are property of their respective owners.

CompUSA
San Bruno (415) 244-9990
Santa Clara (408) 554-1733

Fry's Electronics
Sunnyvale (408) 733-1770
Palo Alto (415) 496-6000
Fremont (510) 770-3797

800-Software
Berkeley (800) 888-4880

Egghead Discount Software
Throughout the Bay Area